PS
THE PREVENTIVE MAINTENANCE MONTHLY
NOVEMBER 1951 ★★ VOLUME 1 NUMBER 6
WILL EISNER

# THE ARMY WAY IS THE RIGHT WAY FOR THE ARMY

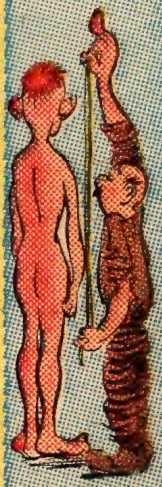
There's an old saying in army circles that there are three ways of doing things—the right way—the wrong way—and the army way. Let's add to that: **The army way is the right way for the army.**

No doubt about it—the army way is different all right. Take f'r instance, the uniform. Plaid sport jackets and blue serge suits are as American as baseball, but they don't fit into the army scheme of things. The khaki uniform does. It didn't just happen. There are years of planning and thought behind it. It's right for the army!

And that goes for your trucks and equipment as well. There are lots of little army ways of repairing and driving your truck that are different from the **right way** of doing it at home, but once you know their why's and wherefore's they have their points.

Army rolling stock may have errands that carry it far from the main highway arteries, and in order to ford streams, battle sand dunes, and make mud pies they have to be engineered just a little differently than the homefront product, even though you see a familiar name on the TM that comes with it.

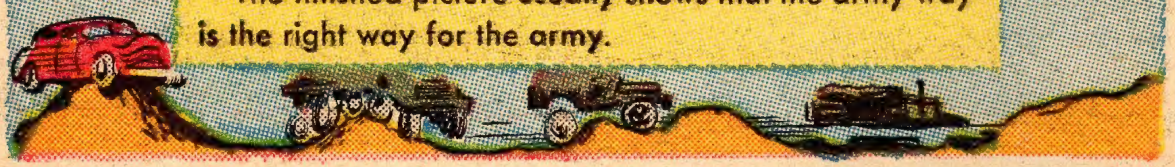
The old trucks at home didn't have to navigate streams ankle high to a giraffe—remember—and their ventilating pipes and breathers could be placed so as to inhale the ozone without regard for water flowing in to emulsify the oil. Omitting the services of a ventilator on an army vehicle is like turning off its iron lung—and you'll soon have sludge and acids way up to here.



Yeah—the "army way" is different. Different clothes . . . different equipment . . . different experiences.

But somehow the pieces all fall in together like in a jigsaw puzzle.

The finished picture usually shows that the army way is the right way for the army.



*Here's a chance for*

## REAL PREVENTIVE MAINTENANCE

You'll soon see several new items added to the interim fleet of 24-volt, waterproof, deep-water-fording vehicles.

You can make 'em or break 'em in the first few minutes, the first few miles, or the first few months.

Many of the new trucks and tanks already in the field have been quickly goofed up by too little care or too much malicious ignorance.

It's up to you.

You can either learn about them and use them right, or you can go ahead and use them with a vengeance.

You can either deadline them at the first sign of trouble or you can double trouble by working the sick ones. Sure as man makes new products, his inventions can be improved. Sure as you get these products of 1951 Engineering—things will need improving. But if you report them right away they can be repaired instead of rebuilt.

Ordnance is as responsive to a UER as Hollywood is to the box office. They'll run to a fire at the first smell of smoke. Or even sooner.

They're running schools in advance of new-vehicle delivery. They've got publications that tell what and how. They've got civilian instructors* all over the place to set up courses and run classes, and they've got technicians who'll even answer your problems by telephone.

It's up to you.

As they say on the posters . . . We have the world's best equipment, TAKE CARE OF IT.

*Ordnance Corps Technicians

NOVEMBER 1951

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PS Magazine is glad to get your ideas for articles and illustrations, and is glad to answer your questions, Just write to:
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Aberdeen Proving Ground, Maryland

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# Combat Maintenance Stories

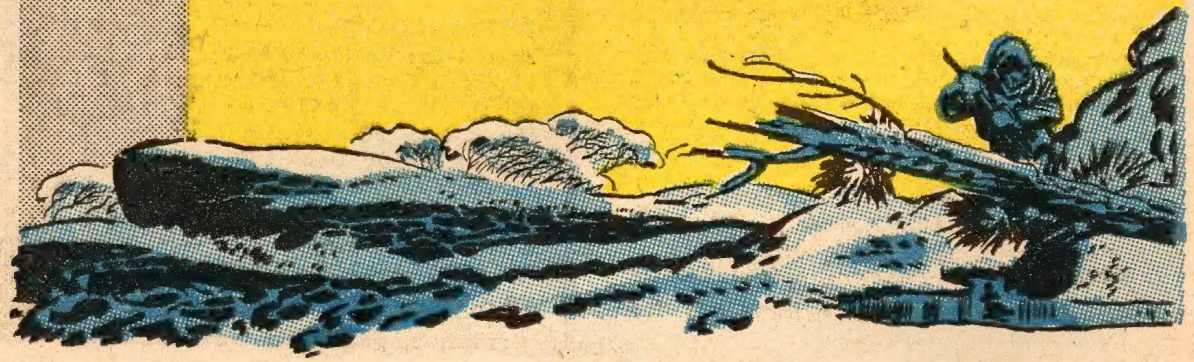
## THIS IS THE STORY OF A PSEUDO COWBOY - - - - - - - - AND A WIRE ROPE

Editor, PS Magazine
Aberdeen Proving Ground, Md.
Dear Editor,

It wasn't so many years ago that I used to think I was a big-shot. Nothing was too risky for Scotty. But now I think I was a darn fool, and I'll tell you why.

I was driving a tank at the time, and I saw a lot of action, too. There wasn't nothing this boy couldn't take. Barbed wire, mud holes, or the roughest country the war could produce. I mean it was rough. Some of those shell holes could've swallowed me and the tank. Sometimes it did—but I was still ready for the next one.

Not any more. Brother, I had to land in the hospital before I wised up to the fact those tanks were built to do a job. I ran over a tangle of barbed-wire once, and you know what happened. It got run around the sprocket and threw my track. That was it. We got out and ran for cover and boy, we were plenty scared. We sweated it out for a good eight hours. Then we had to go back and break the track to get the barbed-wire off the sprocket. By the time we got that track back together, we got out of there none too soon. As it



was, they picked shrapnel out of me for a week. And I was lucky at that.

What I'm drivin' at is that if I hadn't been such a wise-guy we'd have had all that armor plate for protection, or maybe we could've gotten out of there fast. You don't have to take my word for it, just listen in on one of these pow-wows some of the old tank-drivers have. They all learned their lessons the hard way. Jockies and cowboys are fine, but they look better on horses, not in tanks.

MSgt Bill Scott
Tacoma, Washington

## THE TRAGEDY OF THE TRUCK

Editor, PS Magazine
Aberdeen Proving Ground, Md.
Dear Editor,

I don't know if this has anything to do with combat maintenance, but I've seen drivers, truck drivers, in some pretty tough spots be-

cause they didn't know how to drive. I was motor sergeant all the way from France to the Rhine during World War II and I was in a position to see some of the things that went on.

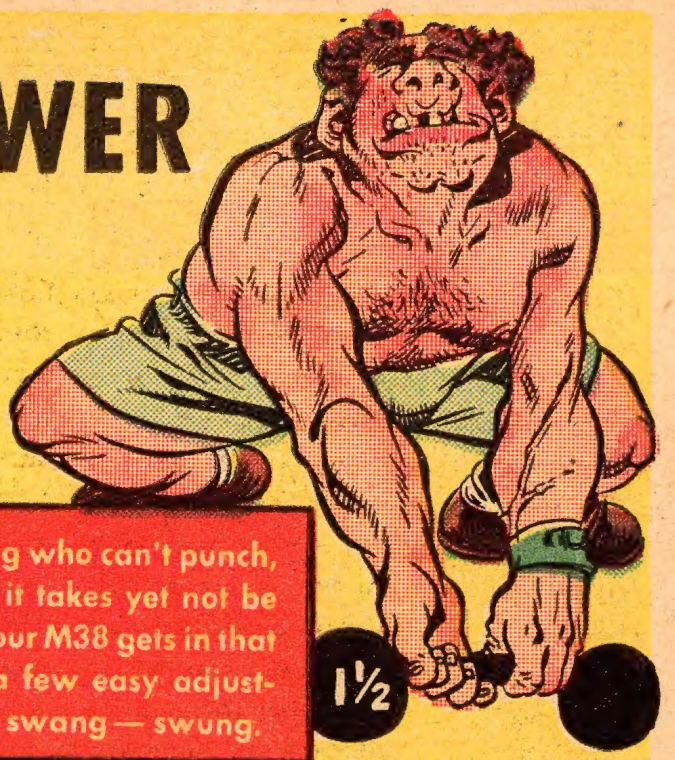
Some guys, when they'd come to a hill they'd go down it in whatever gear they were in. They wouldn't down-shift coming off a level to go down hill. Instead, they'd just hit the air brake. And what happens? They get about two-thirds the way down, no air. The buzzer's a-buzzin' but what can they do about it? And there wasn't always a clear road ahead of them.

And did you ever try to shift a vehicle whose engine was revved-up higher than the transmission? They keep trying and trying and all the while the gears are chewing themselves to pieces. I don't have to tell you what the situation was on supplies. It was tough enough to keep the ammo rolling with the vehicles issued to us—and what with all the trucks I couldn't get new gear boxes for, it was a real tough situation.

What it all was could be called lack of driver-training. I was a motor sergeant and you can quote me: 75% of my drivers didn't know how to drive. The ways they could find for beatin' up a truck would make your hair curl. And it still beats me how some of these guys can get a GI license but yet they can't drive.

Sgt Vince Sherwood
Fort Dix, New Jersey

# MORE POWER TO THE M38




Just like a big muscled pug who can't punch, your motor can have what it takes yet not be able to deliver. And when your M38 gets in that condition it could be that a few easy adjustments can make it swing—swang—swung.

## CALEDONIA...DON'T FILL YOUR GAS TANK SO FULL

Do you find more gasoline in the air cleaner than you find in the tank, on your M38?

If you do, here's what to do about it:

1—Drain and clean the air cleaner and replace its oil to the marked level.

2—Change the engine oil—it's usually diluted by the overflow from the air cleaner.

3—Take off the distributor cap and look inside for signs of oil and gasoline that get in through its vent pipe from the air cleaner.

4—DON'T FILL YOUR GAS TANK SO FULL. If you accidentally get it too full, drain it or drive it to lower the level. Trouble comes from putting a lot of cold gasoline in the fuel tank, replacing the cap, and leaving the vehicle out in the warmth. The gasoline expands as it warms up (and it can't escape because it's confined in the tank by a pressure valve set to 4 or 5 lbs. pressure). So it goes up the breather pipe and into the air cleaner, where in conjunction with the oil stored there, it makes a highly explosive mess.

Sooo — DON'T FILL YOUR GAS TANK SO FULL.

## M38 HOOD HOLDER

One way for an engine to hold on to its hat is to use a ⅛ inch cotter pin when the handles of the engine hood-

catches break loose from the hood-catch tube. Use the pin to replace the rivet that holds the catch handle onto the tube.

## REAR-AXLE HUBS

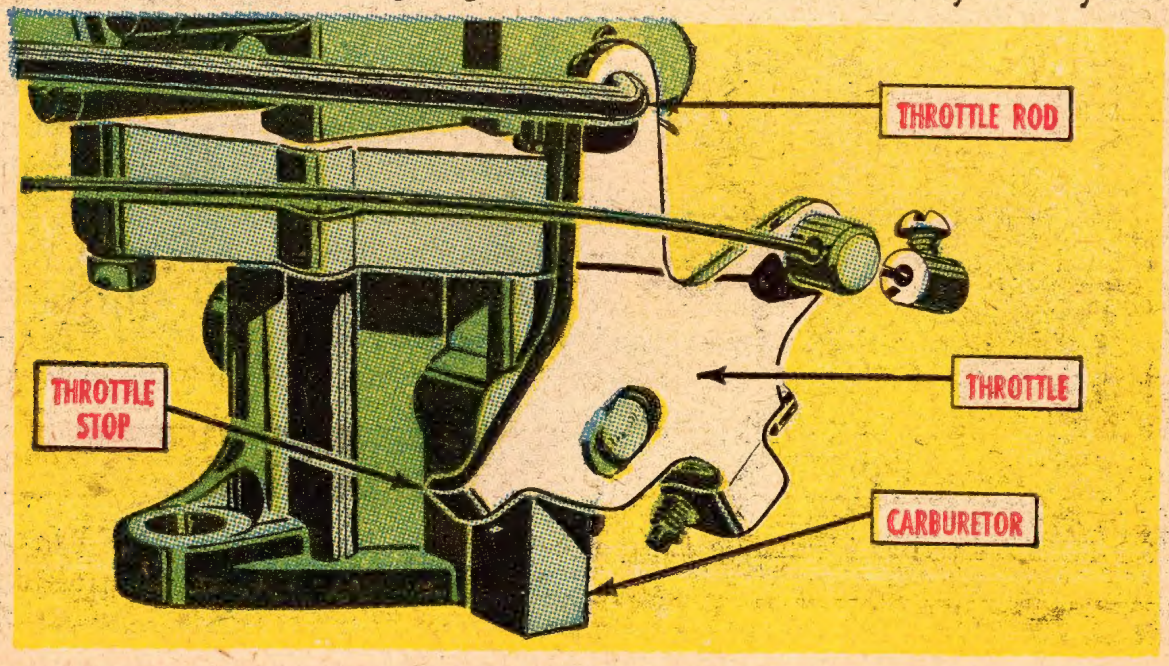
Some Joes having trouble removing the hubs from the rear-axle shafts without bending the flange found it helped to tap around the hub edges with a brass drift before using the puller. Should trouble still come your way, try this. Make a flat metal ring with five holes that match the studs. Then unscrew the wheel nuts from the studs, place the ring on the studs and replace the nuts. Now, use the puller on the **ring.** When you put your muscle on the ring instead of the flange, you're headed right. Should you by chance foul a stud, remember it's easier to replace a stud than a flange.

## THROTTLE ADJUSTMENT

If the carburetor isn't giving its all because the throttle valve (butterfly valve) can't open all the way. Spot this by watching the throttle lever on the carburetor as the accelerator is pushed toward the floor as far as it will go. If the full throttle stop of the lever doesn't tap the carburetor, the engine is being sold short of power. This can be doctored by shortening the adjustable throttle-rod stretching from the throttle cross-shaft to the throttle arm. If the stop taps the carburetor when the accelerator is way down, the valve is wide open. This adjustment should be made while the motor's stopped or you'll find yourself racing the engine unnecessarily.

## SAFETY-CHAIN HOOKUP

Here's something Mr. Forest Ward OCT, ran across when trying to hook the M100-trailer safety-chains to the M38. He tried the idea of using the safety-chain eyebolts from the Ford GPW or Willys MB but found the safety-chain eyebolt



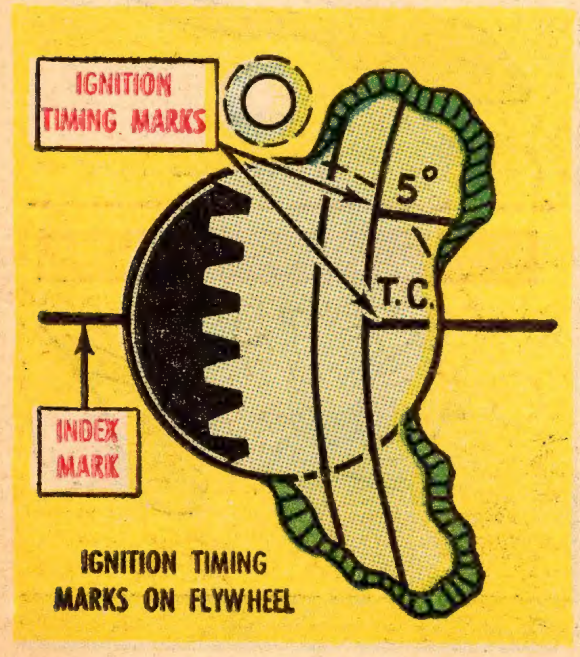
used on the 2½-ton CCKW GMC did a better job.

All he did was enlarge the two bottom pintle-bolt-holes from ½" to ⅝" to take the larger shank. The trailer chains are long enough to allow slack for an extreme turn-angle with the chains crossed. The GMC eyebolt is long enough to let a nut and lock washer go on all the way.

It's a good idea to swap those straight pintle-lubrication-fittings for 90-degree fittings. The angle fittings are easier to get at after you install the eyebolts.

## IGNITION TIMING

Your M38 may be losing power because its ignition timing's been clocked after top-dead-center when it should have been **at 5° before.** Look for the timing marks on the flywheel for top center and the 5° you want. The flywheel on the old jeep says IGN at the 5° angle. Incidentally, it's easier to read these marks from underneath the vehicle, and when making your check, the engine should be at a slow idle (300-350 rpm). Later models of the M38 also have a hole drilled in the crank pulley which shows top center when lined up with a stamped rib on the timing gear cover. But the 5° isn't indicated, so if you want to synchronize from this end you'll have to aline the hole with a point near the beginning edge of the stamped rib.



IGNITION TIMING MARKS ON FLYWHEEL

## SPARK PLUG BREAKDOWN

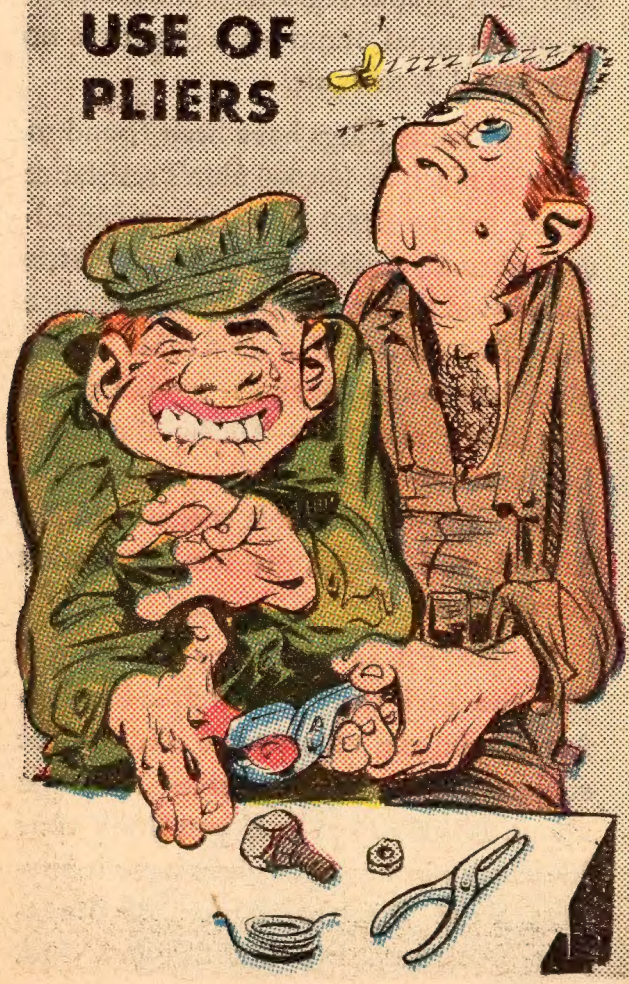
Some theories are floating around on how water-proof spark plugs break down —probably be more before we're through talking. Some say they cure failures by changing brands—but it turns out they're switching brands regardless of the equipment's original brand—which proves no one brand is at fault.

While some plugs have been found to show as much as 400,000 ohm's resistance where maybe 9,000 to 12,000 is considered normal, there seems to be very little connection between spark plug resistance and cable failure. If a new cable assembly solves the problem, use it—but check everything else first—Maybe the cable has been cut—maybe it's been bruised or broken. Maybe the cable core has gotten kinked, and caused the final insulation breakdown.

While PS is busy trying to get you the real story of what's happening, maybe you've got some ideas on the subject that would be useful to know about. If so, and even if you think your idea may not be sound, let's have it anyhow, write direct to: Editor, PS Magazine, Aberdeen Proving Ground, Md.

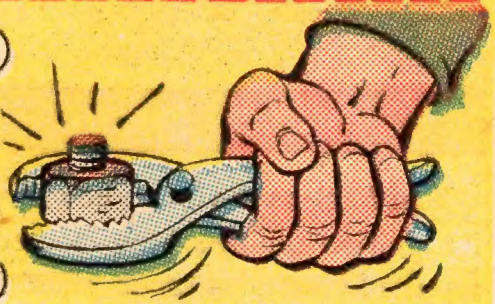
# Hand-Tool CLINIC

## PROPER USE OF PLIERS



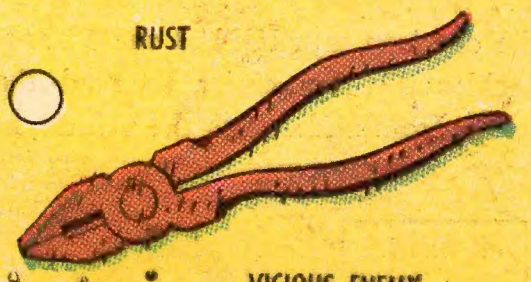
WHEN THIS HAPPENS

GRIP IS SHOT



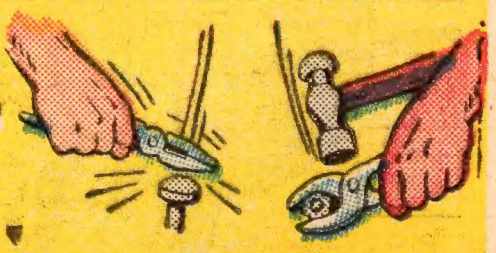
NUT CHEWED ROUND

RUST



VICIOUS ENEMY OF TOOLS

NEVER USE PLIERS



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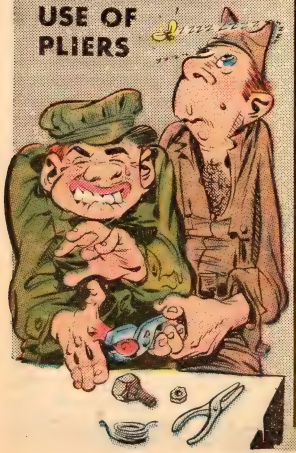

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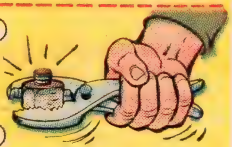

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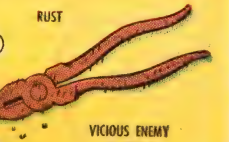
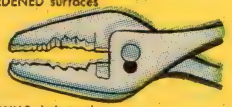


VICIOUS ENEMY OF TOOLS

### NEVER USE PLIERS

### THIS IS THE REMEDY

Avoid using pliers on HARDENED surfaces



It DULLS their teeth

Use WRENCHES to loosen or tighten nuts

NEVER PLIERS

Keep it clean

A drop of oil on the joint pin

Cuts down wear—PREVENTS RUST

### THE RIGHT PLIERS FOR THE RIGHT JOB

DIAGONALS . . Cutting jaws at angle

To pull things like cotter pins (especially in castellated nuts) To cut cotter pins to right length and to spread ends.

LONGNOSE . . . FLATNOSE OR DUCK BILL

For hard to reach spots . . . and for easier handling of things like valve-spring pins.

SIDE CUTTER 5"—6"

Useful for work on the electrical system

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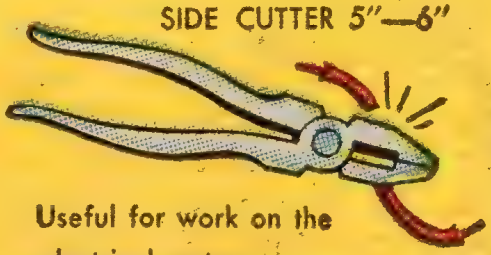

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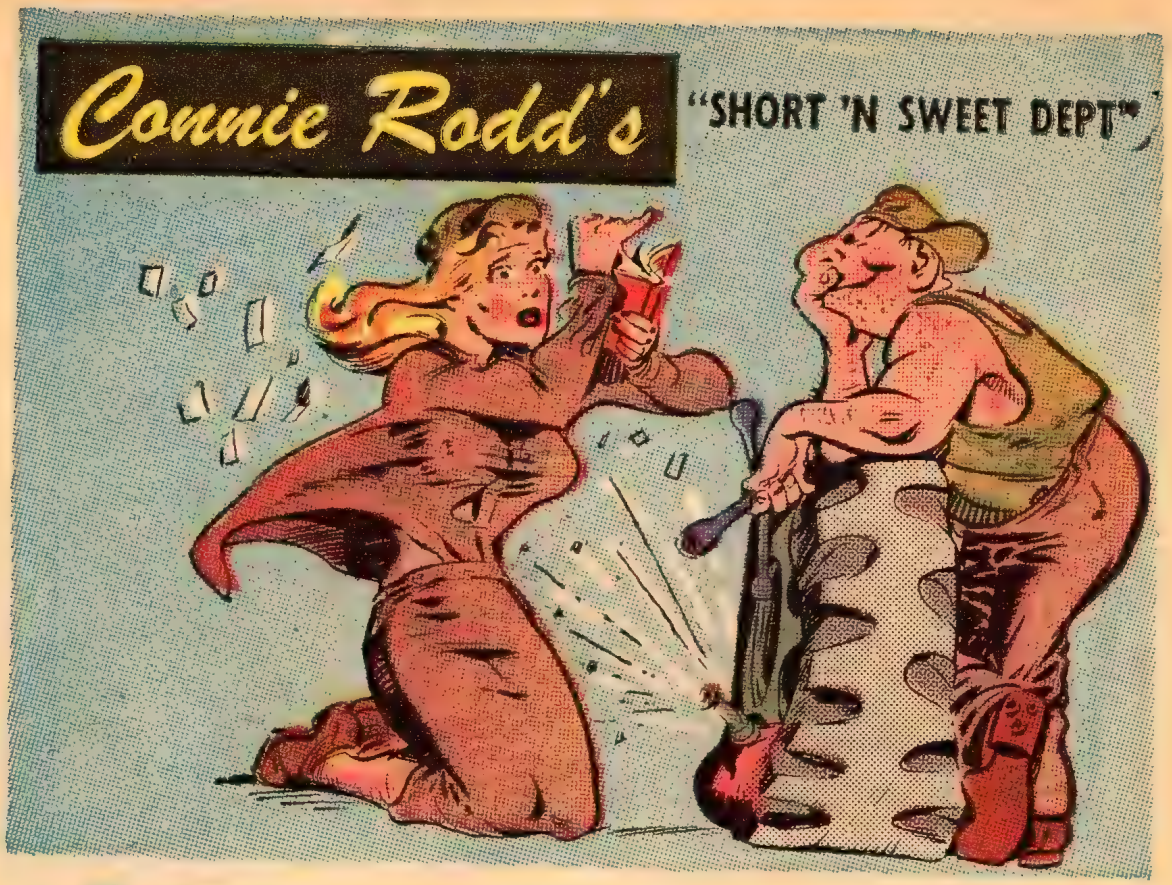



## Brake filler-caps

The situation on the brake-master-cylinder filler-caps (PS Magazine, September), has changed a little. Master-cylinder filler-cap G742-7539310 which had been a long time obsoleted for the 2½-ton M44-chassis trucks, was still used for the M38 jeep. Stock on this cap has been frozen (it's a cap with no baffle), and from now on, your requisitions should get you master-cylinder filler-cap G742-7032636. **But,** stock on the caps may still be mixed, and under this number you might get a single-baffle-type cap or the double-baffle type. It's the single-baffle type that spells trouble (it lets the brake fluid get ejected through the vent into the air cleaner . . . which means no fluid, no brakes) so don't use it. Take only the double-baffle-type brake-master-cylinder-filler-cap (G742-7032636) for the M44-chassis 2½-tons and the M38 ¼-tons.

## Mysterious spark plug slivers

The mystery of the metal sliver first reported to PS as found in an AC WR43 waterproof spark plug doesn't get there during manufacture, but shears from the connector threads as the cap is screwed to the plug. Next time you unscrew the connector (and the sliver with it) the sliver falls into the plug barrel. To get it out, blow out the plug and cap.

## Oil-filter bracket fix

Many fellas, pushing around Chevrolet ½-ton pickups, are complaining about their oil-filter brackets breaking.

The oil filter is attached to the exhaust manifold by U-bolts, strips of metal in

vertical positions, and brackets that fit around the filter (Fig. 1). The brackets are bolted to the U-bolts that fit around the exhaust manifold. The vertical pieces of metal act as foundations for the brackets when they are pulled tight on the U-bolts and against the exhaust manifold.

The U-bolt nuts are being pulled too tight and in turn are bending the vertical foundations around the manifold. This, laddies, is what breaks the brackets —they vibrate themselves right out of commission.

Tighten those U-bolts just enough to hold the filter rigid, then stop.

If you can't determine how tight is tight, and those brackets continue to break, try this fix: Get yourself a couple exhaust-pipe-clamp saddles (Stock No. G121-03-80475, CC No. 597452) (Fig. 2). When you pull the nuts tight with these saddles in place, you'll go so far and that's it. It's going to be far enough to hold the filter tight, but not far enough to twist the brackets and cause them to break.

## *Driver training*

The lootenant who boasts that he got 15 of his drivers licenses without losing them a minute for schooling is now worried. He's laid up in traction devices in the base hospital from a slight accident involving three of his jockies with himself as a passenger in one of the vehicles.

What's he got to be worried about with all those nice pulleys and weights and sheets and pillows you may ask . . . . . ?

(Go on and ask, yuh want to louse up the story?)

Thanks. No, he's not worried about his trucks, they can be fixed. And he's not worried about the drivers, not a scratch on any one of them.

What he's worried about hasn't a thing to do with Ordnance at all. He's worrying about the Medics— —

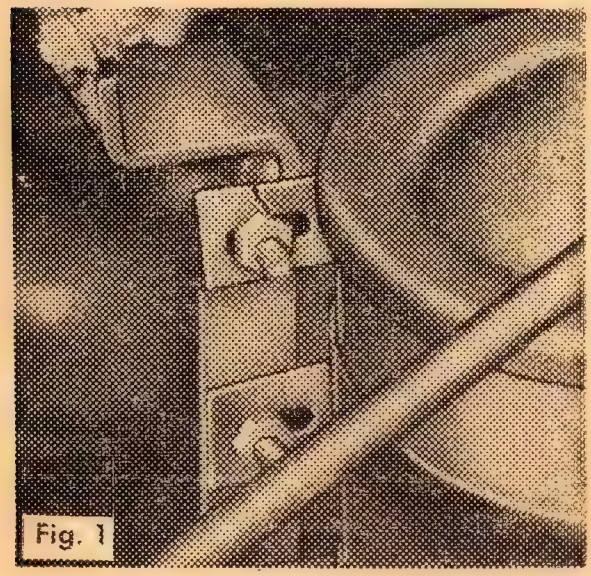


Fig. 1

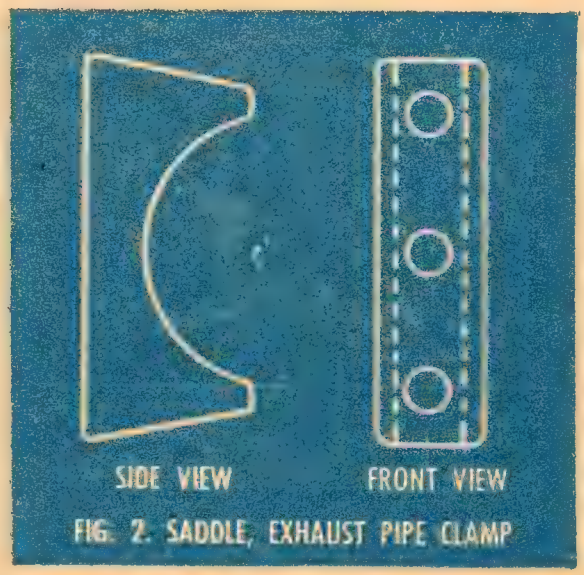


FIG. 2. SADDLE, EXHAUST PIPE CLAMP

'Spose the Medics hadn't given their specialists any better training than he gave his drivers, he'd be in a bad fix lying there at their mercy, jabbing away with all those needles—and maybe not knowing what they're doing at all.

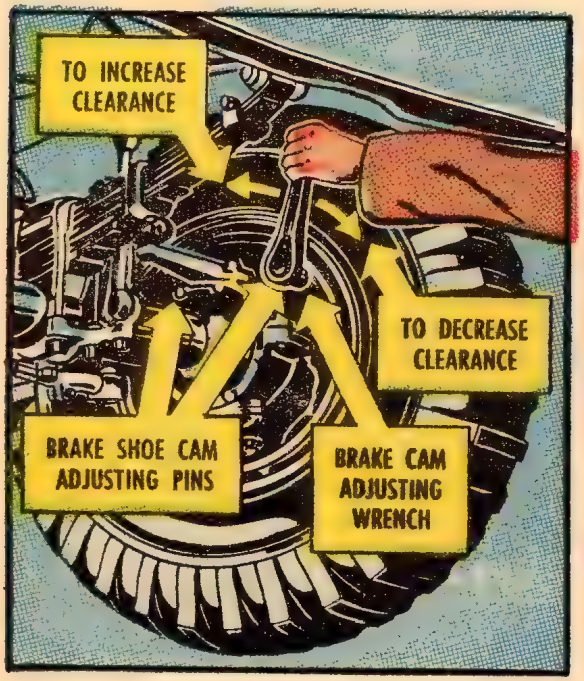
## Correct brake-adjustment

Sometimes we think we're in the groove when actually we've only gotten into a rut. Like setting brake shoes on World War II Dodge ¾-ton and 1½-ton trucks. The best and only way to set a shoe, some guys think, is to ride it around a bit, applying the brakes every now and then to tap it into place. But on these Dodge trucks, we've got another think coming.

You see, the brake-adjusting cams on these trucks are made with the coiled lock-spring on the inside of the brake-support plate. With this type of layout, forcing the brake shoe against the cam may cause the whole cam assembly to tilt down a little when the cam is turned for an adjustment. Then when the brakes are applied after an adjustment, the coil lock-spring will tend to align the cam and the shoe. And since this generally reduces the clearance between the brake lining and the drum, it isn't any good.

So, rather than use your foot, pick up a hammer and smack the outside end of the adjusting-cam whenever the cam is moved in order to change the position of the brake shoe. This wallop will cause the cam to move back into proper alignment.

All this doesn't go for the Dodge ¾-ton M37 which has an improved brake-adjusting cam. On the M37 the adjusting cam is set flat against the brake-support plate and the coiled lock-spring is on the outside of the plate. This set-up prevents any misalignments of the cam when it's turned to change the position of the brake shoe. That way you don't have to strike the adjusting cam to adjust the brake.



# Connie Rodd's BRIEFS

## SWITCHING GAS-TANK CAPS

Ingenuity is fine, until it comes to switching gas-tank caps on the new water-fording vehicles. Seems that the caps are all the same size, but a tight fit is not necessarily a good one.

On the ¼-ton M38, 2½-ton M44-chassis Reo and Studebaker's, and the 5-ton M41 and M51 International's, the gas-tank venting and pressure-relief valves are in the tank itself. The caps for these trucks are air-tight.

The ¾-ton M37 Dodge's and the 2½-ton M135 GMC's, have only an air-intake valve in the tank itself. The pressure-relief valve is in the gas-tank cap.

So, although all of these caps are the same size, what happens if you put one of the air-tight caps on the Dodge or the GMC? Pressure gets built up without a relief-valve to take care of it—and when the pressure finds another exit, you'll find gasoline flirting with the oil in your crankcase and making a nice explosive mixture. Moral: He who switches caps finds fire hotter than frying pan.

## M24 LIGHT-TANKS OVERHEATING

If you're having trouble with overheating on the M24 light-tanks—maybe it's happening because a pair of hydramatic transmissions are fighting each other in the twin arrangement.

News came in here from a using unit, saying they got replacements with different gear ratios from the mating transmission. The replacements were issued under Stock No. G200-70-84016 and stamped with the number 256T on the casting. The transmissions they had in the tanks were stamped with number 255T and were formerly issued under Stock No. G200-70-52523.

What they did to avoid trouble in the future was to start replacing transmissions in pairs. Which makes good sense.

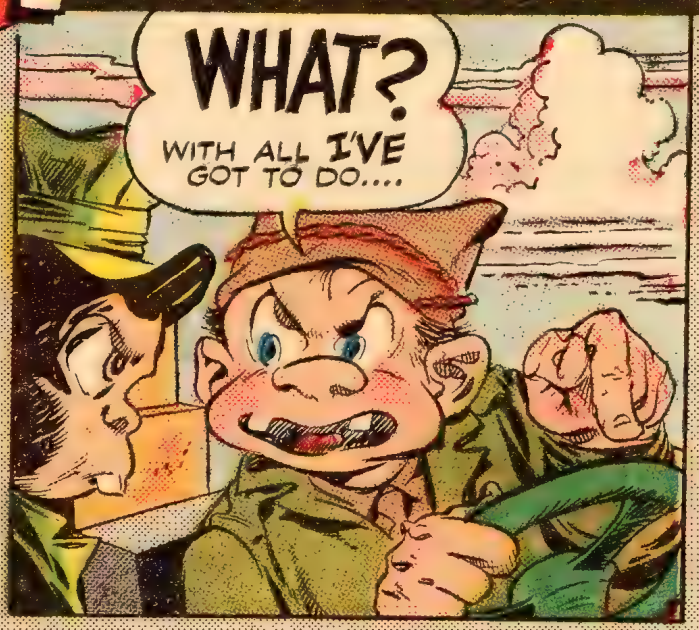
## M38 1/4 -TON GAS-TANK PROBLEMS

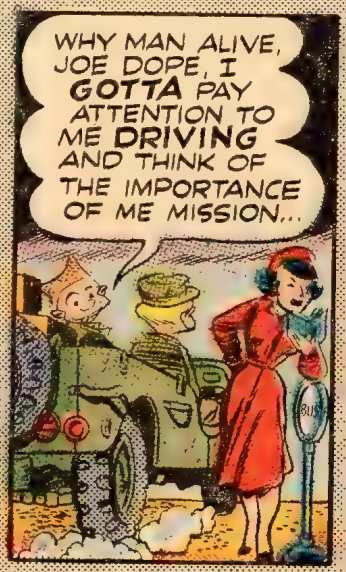
Been hearing a lot about the sweated-in drain-plug sections of gas tanks on the M38's. Seems that when you try to unstick stuck drain-plugs, the whole section can get twisted loose from its moorings. Until maybe a stronger plate section is put into these tanks, the trouble can be avoided by using two wrenches on the stuck plugs—one on the plug and one on the hex boss—like you'd use stilsons on a pipe and bushing.

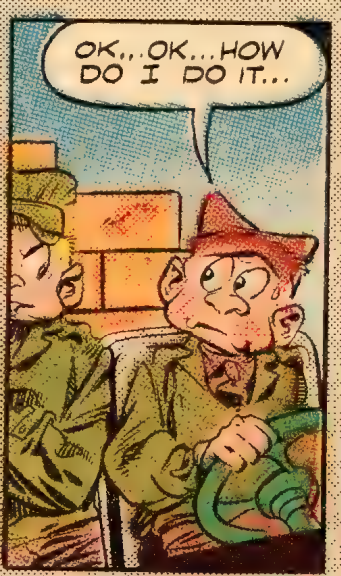
The other trouble is R-U-S-T! The M38's gas-tank filler-necks are rusting all over the place. This rust can be stopped in its tracks by a rubber spray-compound called Buna-N--and this compound promises to give a rust-preventive coating that'll last as long as the tank. All M38's in the field, and all new production will have their filler necks sprayed with this bright yellow Buna-N. Watch for it.

# JOE DOPE

## HOW TO PERFORM A DURING-OPERATIONS SERVICE ON YOUR VEHICLE



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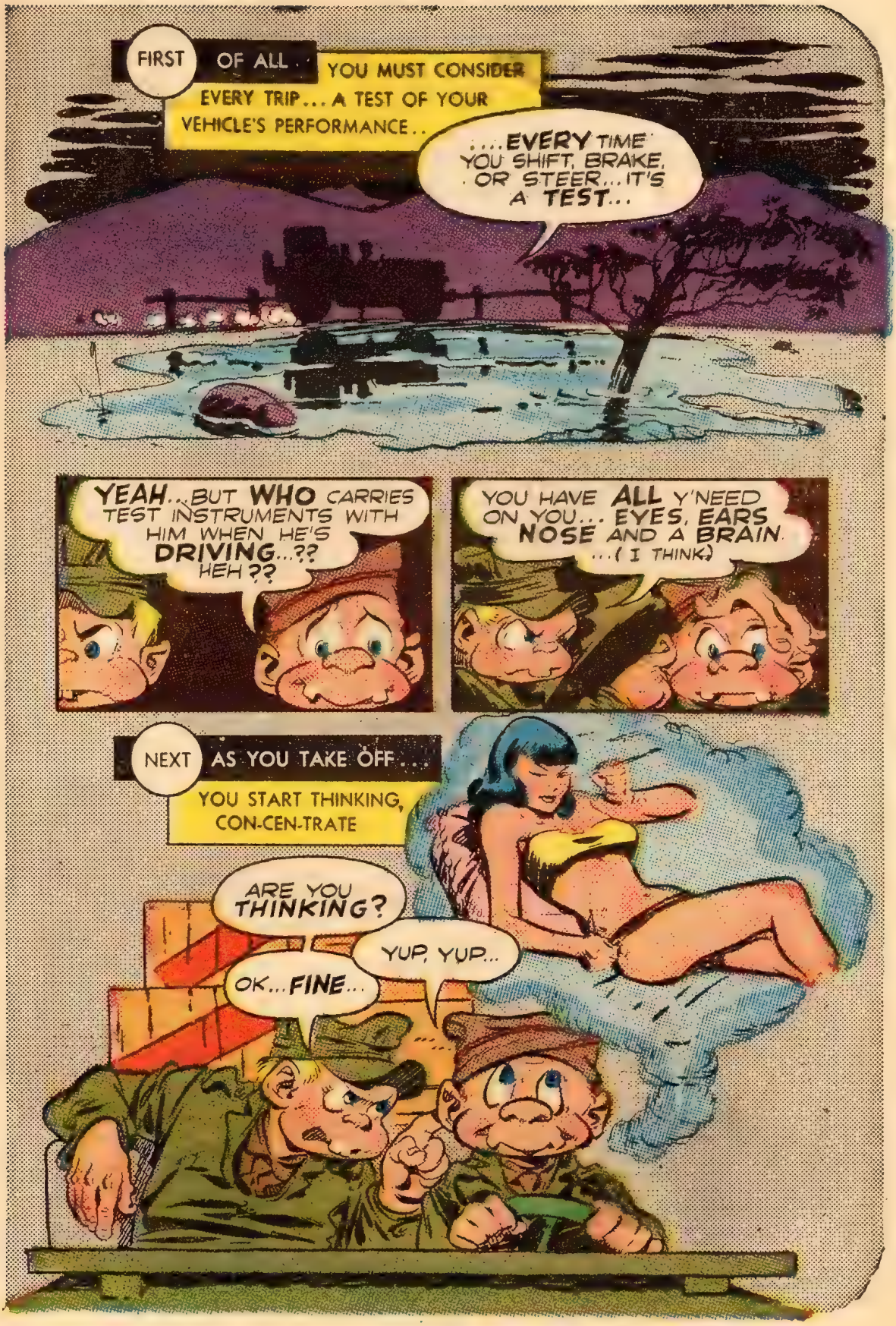

FIRST OF ALL . . YOU MUST CONSIDER EVERY TRIP . . . A TEST OF YOUR VEHICLE'S PERFORMANCE . .
. . . . EVERY TIME YOU SHIFT, BRAKE, OR STEER . . . IT'S A TEST . . .
YEAH . . . BUT WHO CARRIES TEST INSTRUMENTS WITH HIM WHEN HE'S DRIVING . . . ?? HEH ??
YOU HAVE ALL Y'NEED ON YOU . . . EYES, EARS NOSE AND A BRAIN . . . ( I THINK )
NEXT AS YOU TAKE OFF . . .
YOU START THINKING, CON-CEN-TRATE
ARE YOU THINKING?
YUP, YUP . . .
OK . . . FINE . . .

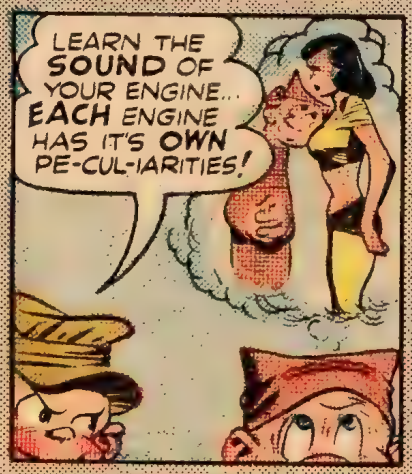
# THE ENGINE

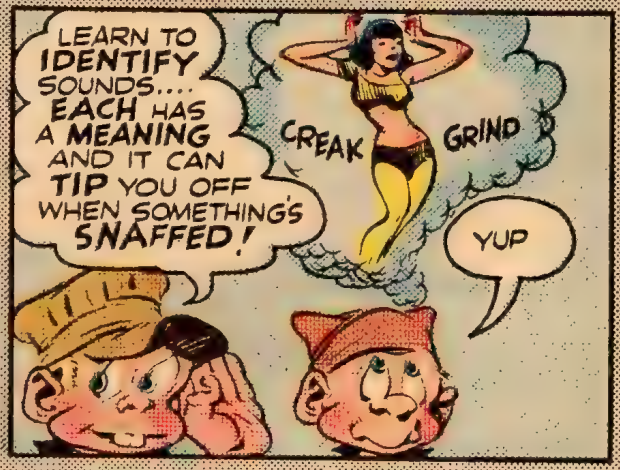
## FOR TESTING YOUR ENGINE DURING THE OPERATION

HERE'S ALL YOU NEED

a.

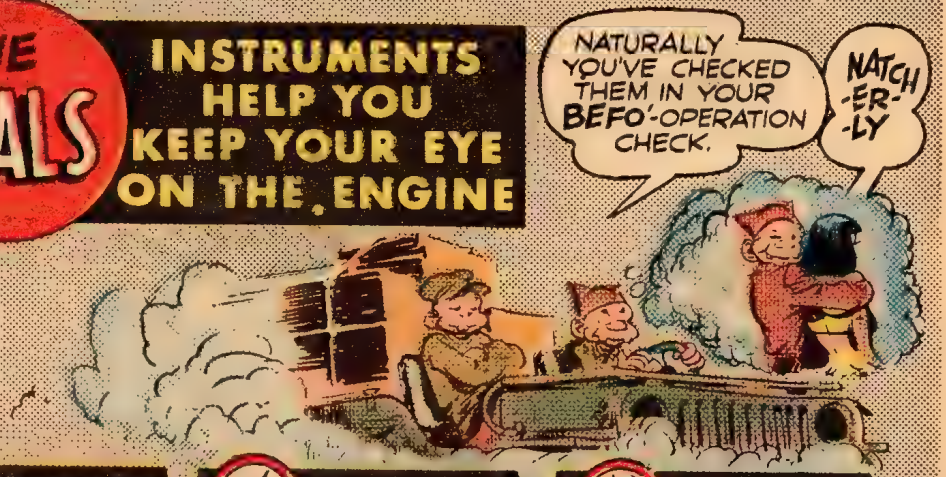
b.




# THE DIALS

## INSTRUMENTS HELP YOU KEEP YOUR EYE ON THE ENGINE




**TEMPERATURE**

IF IT'S TOO HOT DON'T WAIT, INVESTIGATE IMMEDIATELY!

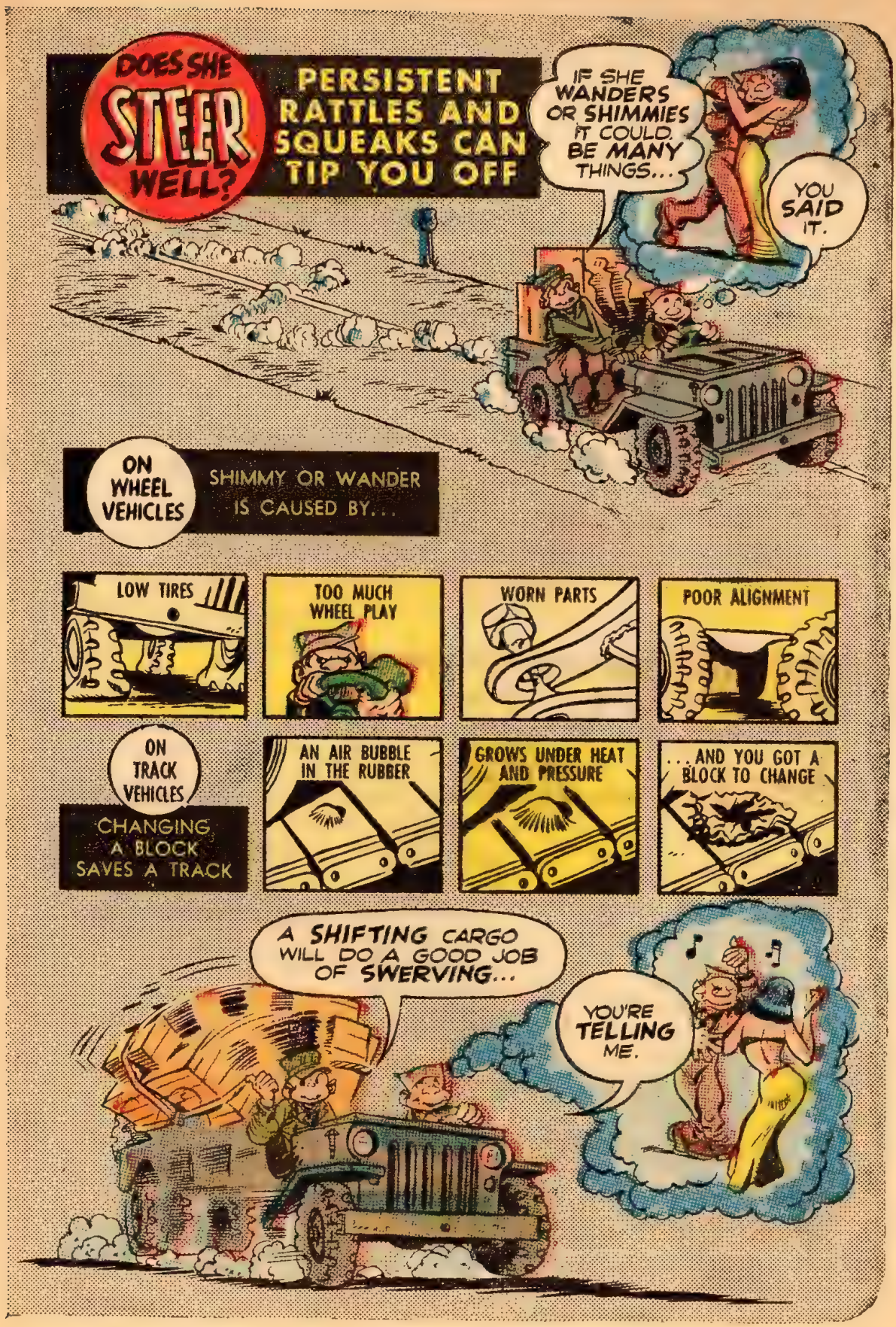
**OIL PRESSURE**

IF IT ISN'T NORMAL ... REPORT IT!!

**TACHOMETER**

MUST SHOW RPM OF THE RUNNING ENGINE (SEE THE CAUTION PLATE).

THE ENGINE SPEED SHOULD NOT GO HIGHER THAN THE CAUTION PLATE SPECIFIES


DOES SHE STEER WELL?
PERSISTENT RATTLES AND SQUEAKS CAN TIP YOU OFF
IF SHE WANDERS OR SHIMMIES IT COULD BE MANY THINGS...
YOU SAID IT.
ON WHEEL VEHICLES
SHIMMY OR WANDER IS CAUSED BY...
LOW TIRES
TOO MUCH WHEEL PLAY
WORN PARTS
POOR ALIGNMENT
ON TRACK VEHICLES
CHANGING A BLOCK SAVES A TRACK
AN AIR BUBBLE IN THE RUBBER
GROWS UNDER HEAT AND PRESSURE
...AND YOU GOT A BLOCK TO CHANGE
A SHIFTING CARGO WILL DO A GOOD JOB OF SWERVING...
YOU'RE TELLING ME.

## ARE GUNS SECURE?

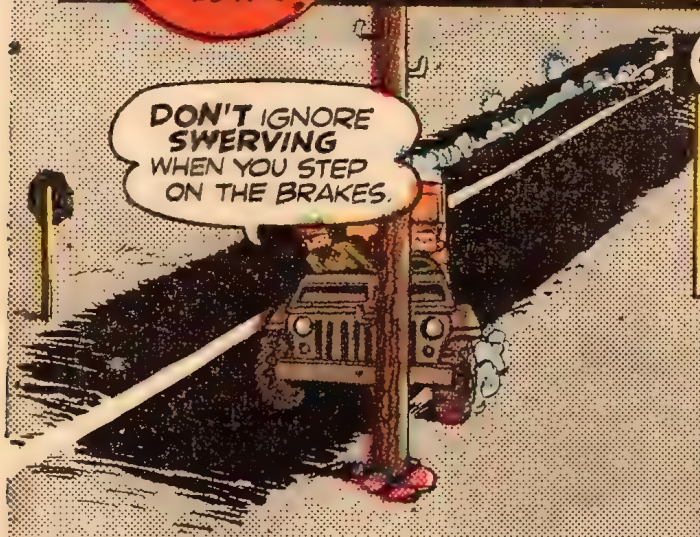
## DEPENDING UPON THE TACTICAL SITUATION

**TANK** — MANUAL AND HYDRAULIC TURRET CONTROLS, TRAVERSING AND GUN ELEVATING CONTROLS, FIRING AND STABILIZER CONTROLS READY FOR USE.

**IF** — ON AMPHIBIAN OR OTHER SPECIAL EQUIPMENT . . . SEE MANUALS

## ARE BRAKES HOLDING?

## THERE'S THE HARD WAY . . . OR . . . YOU CAN LOOK FOR DANGER SIGNS




**STOP** — SWERVING COULD MEAN

- BURNED OUT BRAKES
- WET OR GREASY LININGS
- LEAKING HYDRAULIC SYSTEM

**HAND BRAKE:**

HANDBRAKE SHOULD HOLD WITH 1/3 OF IT STILL IN RESERVE

## THE CLUTCH

ASIDE FROM BURNING... WATCH FOR CHATTER AND SQUEAL

BUT ACTUALLY IT'S THE FREE TRAVEL YOU MUST WATCH FOR.

IF THERE'S NOT ENOUGH FREE TRAVEL

MEANS THE CLUTCH IS SLIPPING

IF THERE'S TOO MUCH FREE TRAVEL

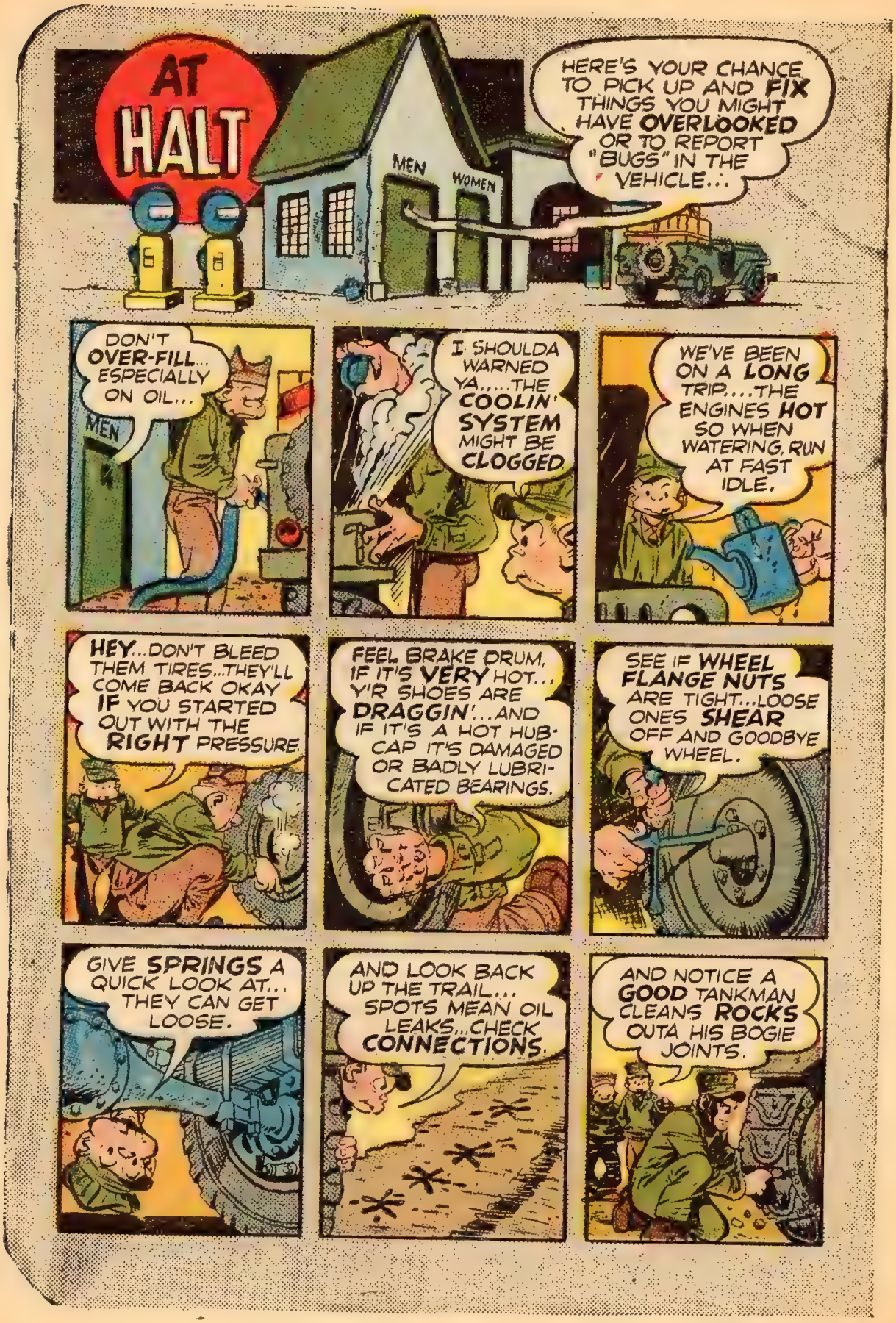
MEANS THE GEARS ARE CLASHING

## THE GEARS

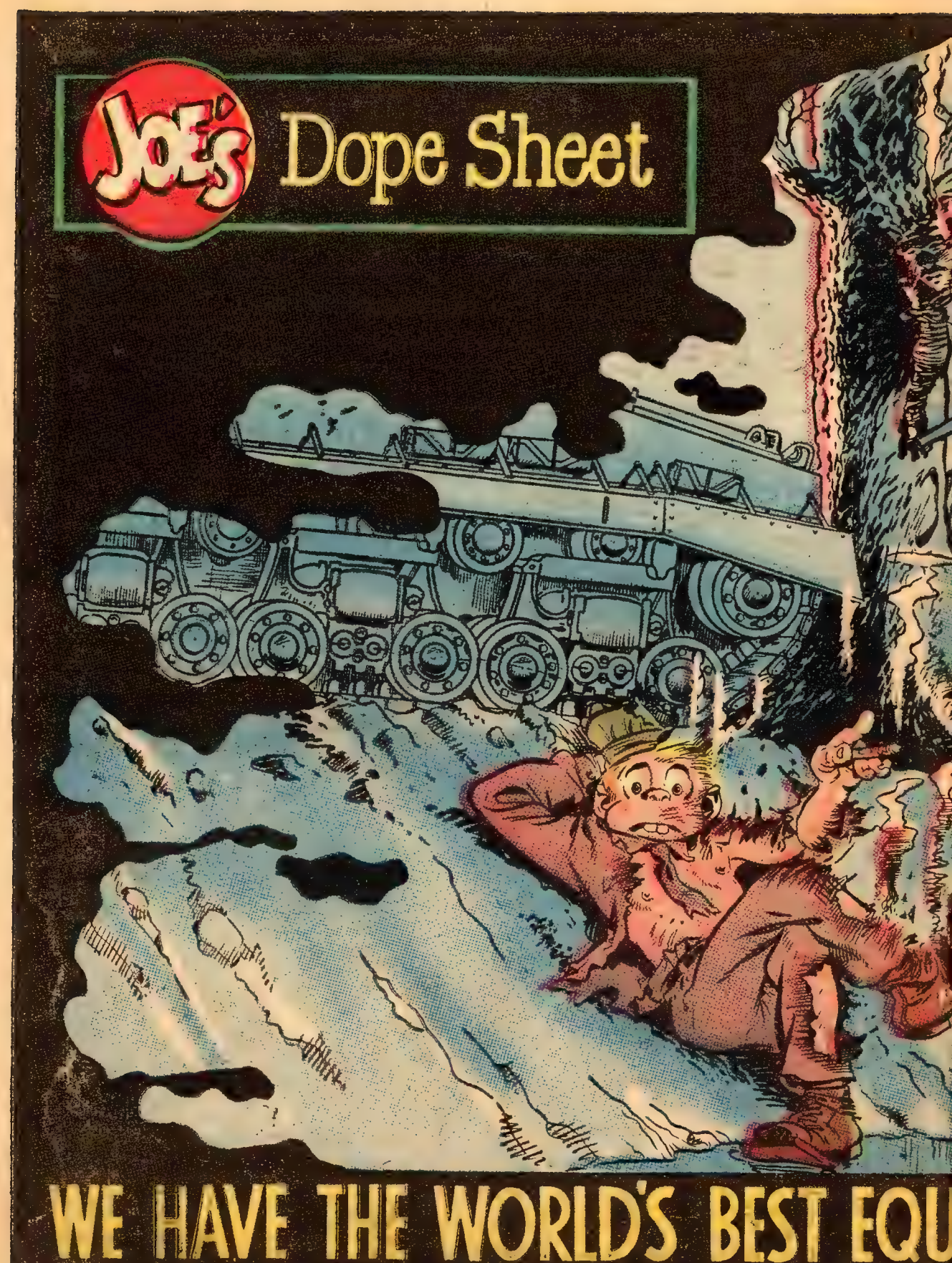
LISTEN FOR GRINDING OR RATTLE...OR STRIPPED TEETH

IF SHE KEEPS JUMPING OUT OF GEAR, IT IT MIGHT MEAN A WORN OUT DETENT.

OR IT MAY BE THE RESULT OF MISALIGNED CLUTCH HOUSING


AT HALT
MEN
WOMEN
HERE'S YOUR CHANCE TO PICK UP AND FIX THINGS YOU MIGHT HAVE OVERLOOKED OR TO REPORT "BUGS" IN THE VEHICLE...
DON'T OVER-FILL... ESPECIALLY ON OIL...
MEN
I SHOULDA WARNED YA.....THE COOLIN' SYSTEM MIGHT BE CLOGGED.
WE'VE BEEN ON A LONG TRIP,...THE ENGINES HOT SO WHEN WATERING, RUN AT FAST IDLE.
HEY...DON'T BLEED THEM TIRES...THEY'LL COME BACK OKAY IF YOU STARTED OUT WITH THE RIGHT PRESSURE.
FEEL BRAKE DRUM, IF IT'S VERY HOT... Y'R SHOES ARE DRAGGIN'...AND IF IT'S A HOT HUB-CAP IT'S DAMAGED OR BADLY LUBRI-CATED BEARINGS.
SEE IF WHEEL FLANGE NUTS ARE TIGHT...LOOSE ONES SHEAR OFF AND GOODBYE WHEEL.
GIVE SPRINGS A QUICK LOOK AT... THEY CAN GET LOOSE.
AND LOOK BACK UP THE TRAIL... SPOTS MEAN OIL LEAKS...CHECK CONNECTIONS.
AND NOTICE A GOOD TANKMAN CLEANS ROCKS OUTA HIS BOGIE JOINTS.

AND FOR A GOOD MEASURE SEE THAT THE AIR CLEANER IS DELIVERING CLEAN AIR LIKE IT SAYS IN THE DA, LO
WHILE UNDER THE HOOD...TAKE A LOOK AT THE FAN BELT... SEE IT ISN'T FRAYED OR STRETCHED... REPORT IT IF IT'S OUTA WACK.
THAT'S ALL THERE IS TO IT.!
YES SIR A LOTTA ATTENTION ON LITTLE THINGS...
MAKES THE BIG THINGS EASY!
FRESH!
SLAP
HEY YOU BEEN CONCENTRATING ???
SURE, JOE... BUT WOULD YOU MIND RUNNING THROUGH THE DURING OPERATION DEAL ONCE MORE ?

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Joe's Dope Sheet
The gas pump was merrily clinking
The big tank was thirstily drinking
The fumes rolled down hill
And gave Joe a thrill
When he lit his cigar without thinking
WE HAVE THE WORLD'S BEST EQUIPMENT...Take care of it
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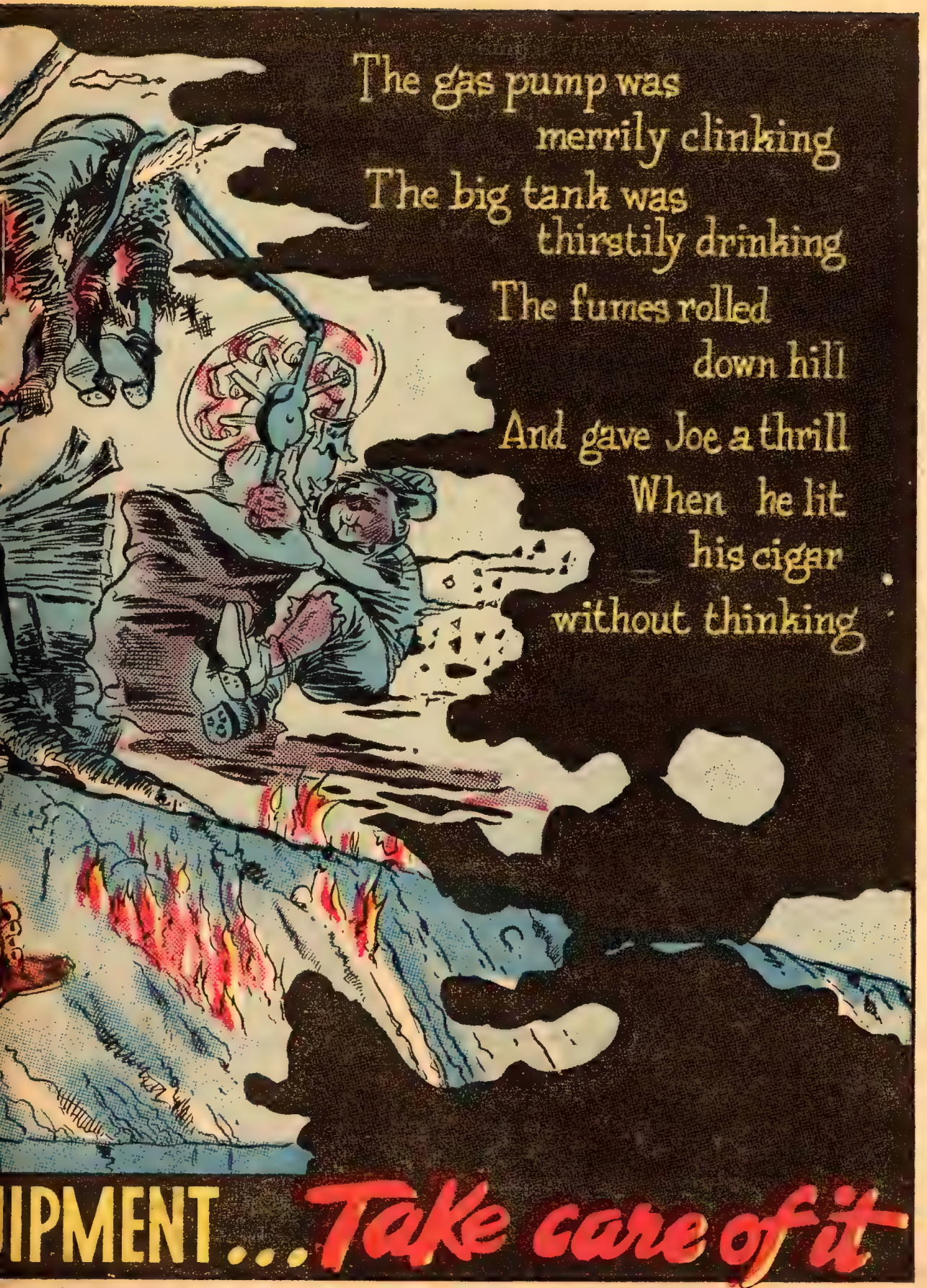
COPR. 1951 WILL EISNER PRODUCTIONS


The gas pump was
merrily clinking
The big tank was
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The fumes rolled
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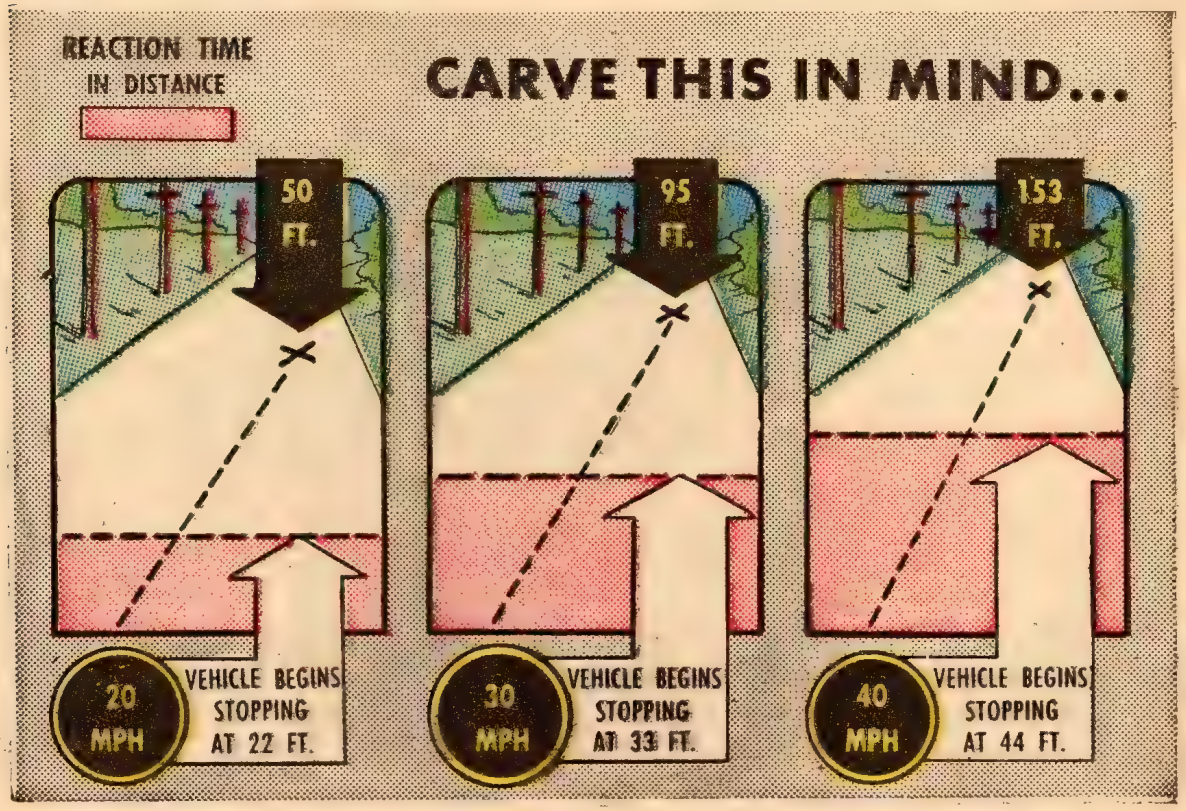
And gave Joe a thrill
When he lit
his cigar
without thinking
IPMENT... Take care of it

# IT'S LONGER THAN YOU THINK

Trouble with our drivers is they all have lightning reactions and superman reflexes. You tell 'em it takes just so long for their mind to digest the fact that the vehicle ahead of them is going to stop or has stopped and then another space of time for the message to race through their nerve trunkline, and they say: "Oh, yeh, I know all about that—that's NORMAL REACTION TIME, but me? I move twic't that fast."

Actually, under many highway conditions even "twic't that fast" isn't fast enough brain-and-leg-action to keep from nudging the vehicle ahead in normal convoy vehicle-spacing. So the driver who feels smug about using his controls because of his high-velocity reflexes may find himself occupying the same space at the same time as the gentleman in the next vehicle. With the likelihood that the driver behind him will barrel his vehicle into the both of them.

Proper spacing of vehicles in a column on the highway, when not under special

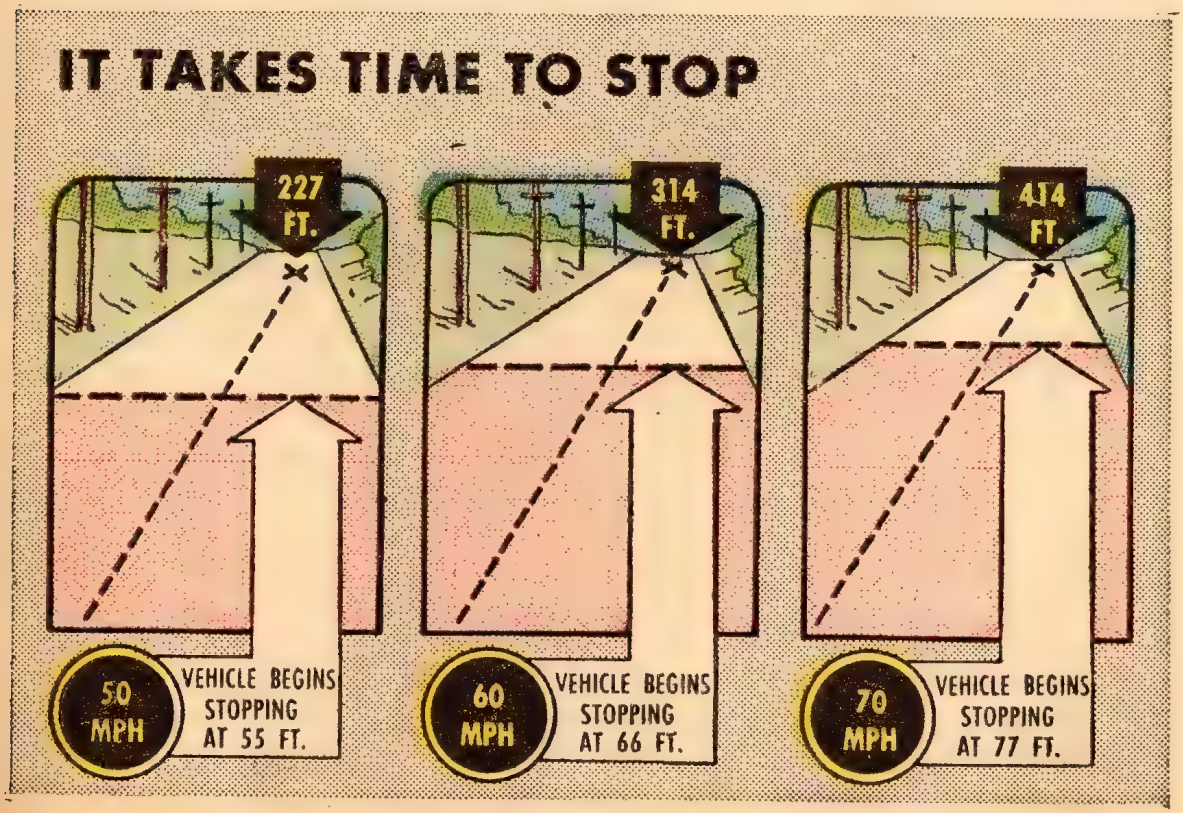


orders to the contrary by the column commander, is to keep a distance in yards that is double the rate of speed you are traveling: i.e., 60 yards at 30 mph, 80 yards at 40 mph, etc. And don't forget to allow 3 feet in every one of those YARDS. (Better practice judging distances to be able to tell the variations.)

This spacing is adequate under most conditions on most roadbeds, if the driver is alert and safety conscious. Remember that you use up this intervening space in a hurry if the truck ahead comes to a sudden stop for any reason.

They've been checking on the time consumed for super-humans to get their mind made up and their brakes applied and it runs about like this: You're ripping along at 40 with the siren hum of 5th speed lulling you into deadly relaxation, when . . . Bang! the truck ahead of you stops dead—no hand signal, no nothing.

Whadda you do? You bounce your size 11 triple E off the accelerator and on to the brake pedal so quick you can hardly believe it. But do you know how far your truck traveled during that less-than-no-time that elapsed between the remove and replace? Just 44 feet, hear



ye, brother, just 44 twelve-inch feet—that's all. But that's only part of the story. Your foot is on the pedal and your brake shoes are against the drum, but you're still rolling towards the truck ahead. And you'll keep rolling for probably 109 feet if you have a good high-friction highway.

Add the 44 to the 109 and you get a total of 153 feet, and you were safe with maybe a couple yards to spare. To spare that is, if your trained eye estimated fine 3-foot yards in judging your distance and didn't include too many at 2 or maybe 1 foot to the yard.

Safe, but not popular. For if your cargo is a human variety they'll tell you a thing or two about reaction-time as they crawl out from among each other.

# THINGS YOU NEVER KNEW...

## PLATINUM-TIP PLUGS

The spark plugs in most of your tanks have platinum-tipped electrodes to give them long life. So when you replace them with new ones, turn in the old plugs for salvage. They're worth a buck apiece in trade, and platinum is a very scarce item these days. It also makes sense when you clean same, not to file off any of that there precious alloy. To help you know what plugs to save, they'll be the type you get stamped with manufacturer's numbers CP635, BG RB8385-2, or TAC-2. But turn 'em all in just to be sure.

## CADILLAC COMPRESSION ADJUSTMENT

Dear Editor,

I have to use low octane fuel in my ¾-ton Metropolitan Ambulance which has a high compression engine. I've been told that I can drop the compression ratio from 7.5 to 1, to 7.2 to 1 by installing a .040" steel shim between two head gaskets on each block and that the Cadillac factory makes a shim for that purpose. Is this true?

Sgt. W. Francis

*(Ed Note—True it is, true it is.)*

## 24-VOLT TEST EQUIPMENT

You will be happy to know that adapter kits are now available to test and adjust the electrical systems on your new 24-volt vehicles. These kits contain all the prods and stuff you'll need so there's no more reason to try needling those sealed items with makeshifts like old rusty nails and baling wire. F'rinstance, when you plug the adapter into the generator, all three terminals will be staring at you where you can get at them easy. The kit is available in supply channels under stock number 17-A-3150, and will work hand-in-glove with your old standby low-voltage-circuit tester number 17-T-5575-50, which you no doubt have standing around waiting. The whole kaboodle is announced in Change 1 to ORD 6 SNL J7 Section 3, published in September 1951.

## Souvenirs Are VALUABLE

Every so often you people who are operating vehicles in far forward areas will find all sorts of interesting enemy materiel left lying about—anything from individual weapons and equipment to large pieces of Ordnance.

This stuff is not only interesting to you, it is of vital interest to the Ordnance Corps. Now, officially, all captured or abandoned enemy equipment becomes United States property automatically, and Uncle **can** be stuffy about it.

However, he will go along with you by returning much of anything in the nature of individual weapons and/or equipment you turn in, if you want it back for a souvenir. Things like rifles, pistols, helmets, canteens, bayonets, etc. Crew weapons, mortars, etc., are out. And grenades, rockets, and shells will be de-loused for you.

Anyhow, don't try to take this stuff apart, or start vehicles or tanks, etc. Just leave it severely alone, and tell the nearest Ordnance Intelligence or Explosive Ordnance Disposal Unit about it. Invaluable information can be obtained from enemy material; and the less damage and/or stripping it has suffered, the more valuable it is. Leave the small parts, sights, books, etc., alone—AND turn it in promptly.

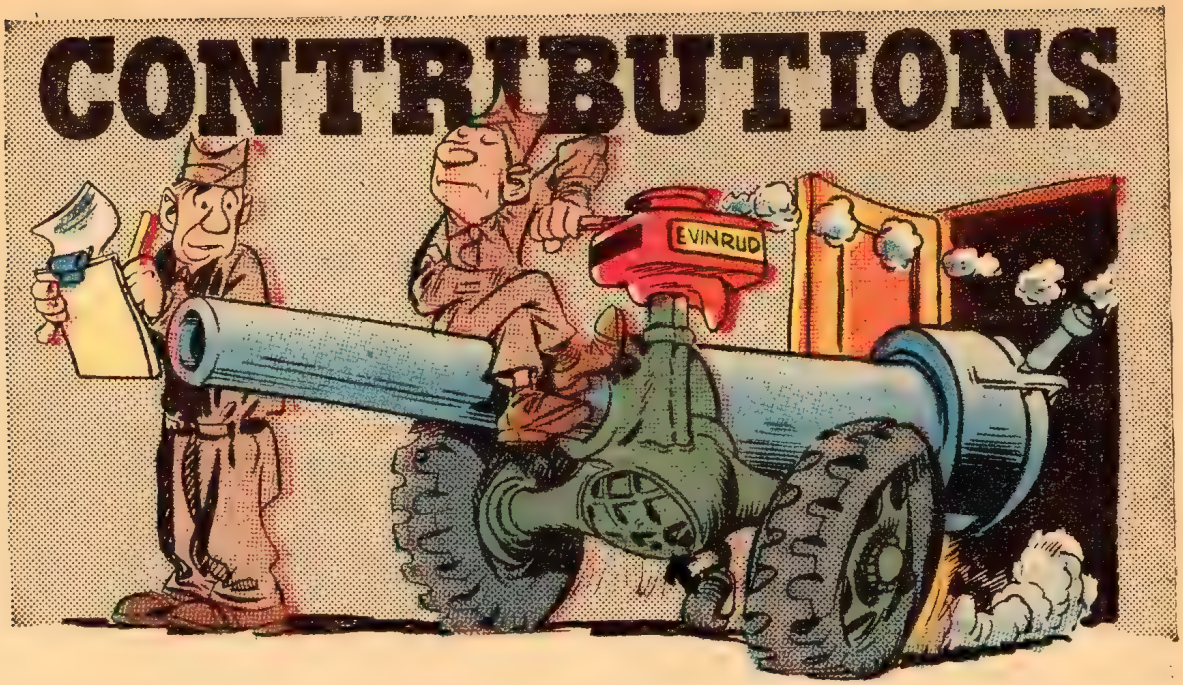
## TEMPSEAL AND TERMINALS

As the result of testing at the Ordnance School, they've found it unnecessary to slop Tempseal on the terminals of your battery at *any* time. As you learned from the October issue, it was decided that this material was not to be used on these terminals except when fording. So they figured on putting Tempseal in the fording kit, to be used *only* when fording.

The latest tests show that the twenty-four-volt batteries do not short out when operating under water. And it seems that Tempseal actually seals in corrosion which forms on the terminals, and gradually, current leaks develop. One battery tested at Aberdeen was found to have a ten-volt leak on each side of the center connector—one at Camp McCoy showed an eighteen-volt loss. Which, of course, caused excessive charge and drain on the battery. So now, you don't fool with Tempseal. Just grease your terminals lightly, same as usual. And after fording, just flush off the salt water with fresh water.

**All ZI commands were notified by TWX #23406 dated 25 Oct 1951.**

# CONTRIBUTIONS




## PITTED POINTS

Dear Editor,

When setting up radio noise suppression on the distributor of the GMC 2½-ton 6x6, be sure to attach it to the rear post which has the long wire running from the filter box on the fire wall. Attaching it to the front post gets you more than your share of ignition-point pitting. Reason is, your distributor is connected to the front post and it already has a condenser in it. Parallel condensers give off the sum of their electrical capacity — which is too much for the points.

**Pfc Eldridge Foreman**
**2d Armd Cav (USCON)**

## SEATING BRAKE-LININGS

Dear Editor,

Here is one on the new Dodge M37 ¾-ton-truck brakes. After newly relined brake shoes are installed and initially adjusted, drive around the area and apply the brakes until they're well warmed up. Upon returning to the shop, stop the truck and give it the brakes for about five minutes. This tends to seat the linings well against the brake shoes; and thus, after the final brake adjustment is made when the brakes cool, will last much longer, giving a hard solid pedal with plenty of reserve.

**Cpl Kenneth J. Bacon**
**2d Armd Cav (USCON)**

*(Ed Note—Applying the brakes a bit on an initial run will do a lot toward seating the linings the way you want them. And as said, readjust after they're cool. Must confess though, this is a new slant on seating the shoes by holding the brake pedal on after the truck's been stopped.)*

## RADIATOR REPAIR

Dear Editor,

Here's front-line first aid for cellular radiators that have the misfortune to meet-up with a stray bullet. If the spent shot misses the water-pump and the fan, this fast, emergency patch-job will keep

your buggy off the combat casualty list—it may cause over-heating, but it'll hold water'til you roll back to the shop for a new radiator.

You'll need two sturdy pieces of wood, or scrap metal of some sort (if your situation is real desperate, rip off the soles of your shoes) for patches—they've gotta be large enough to overlap the bullet's exit hole.

Drill a hole in the center of each patch, then pad them thick with heavy grease (Fig. 1); soap, mud or oily rags are ok, too. Place a patch on each side of the hole in the radiator core and run the whole business through with a long bolt. The bolt has to be longer than the combined thicknesses of the patches and the radiator, of course. If one isn't handy, run a strong wire loop through the radiator core to hold the patches in place. Now secure the double patch with a nut, and pray for a nearby water-hole.

**SFC R. H. Fortin**
**9301 TSU Ord (Ord Bd) APG, Md.**

*(Ed Note—Sounds like good emergency mending, Doc, but be sure the patch doesn't get in the way of the fan blades . . . and if you use grease on your patient, remember it won't hold up as long as other scrap padding, because over-heating will melt it. Past experience has proved soap to be the best of the lot.)*

## SUBSTITUTE FOR JEEP BELL-CRANK PIN & BUSHING.

Dear Editor,

Bell-crank shafts and bushings for our ¼-ton 4x4 Jeeps, at times are hard to get. After scrounging around we found a few substitutes. I'd like to pass them along so other outfits can make use of them.

If it's the bell-crank bushing (H012-0709455) that you can't get, try using a GMC tie-rod-end bushing (G508-5167503) or a GMC front-spring bushing (G508-7538404), they'll both fit. Cut two ⅝" pieces from either bushing and press one ⅝" length in each side of the bell-

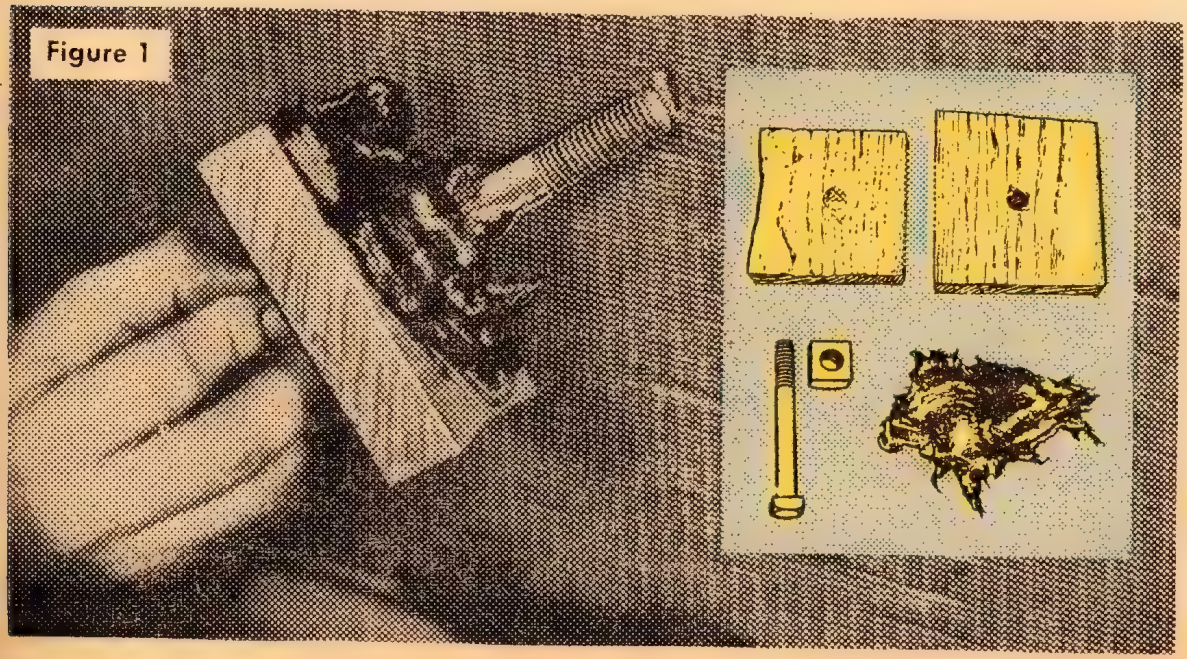


Figure 1

crank hole. Leave a little space between them to act as a grease slot.

For the bell-crank shaft (8080-17210) a GMC tie-rod bolt (G508-5167461) or a GMC front-shackle pin (G508-0338699) can be substituted. You'll have to cut the bolts' hexagonal end off, and file in the lock-notch.

**Sgt R. T. Stephenson**
**363 Ord Ammo**
**Korea**

*(Ed Note—Good deal, as a quick field fix . . . but replace the substitutes with the genuine parts as soon as you get them.)*

## M51, M52 WINCH

Dear Editor,

On our M51 and M52's the winch idle-roller supports have been breaking. They go pop when extreme torque is applied to the idle-roller while the winch's being operated the present standard way (Fig. 2).

Seeing that these support-castings are made of aluminum alloy and probably can't stand too great a strain, we worked out some ways to operate the winch that'll keep them from snapping.

Best method . . . reverse the cable so it will pay out from under the drum and then, through the power train, reverse the drum rotation (Fig. 3).

Another remedy . . . reverse the entire front bumper, this'll put the recess or cutaway on the top side, then pay the cable out over top of the idler. It may be necessary to enlarge the bumper recess for better cable clearance (Fig. 4).

**F. L. Ward, OCT**
**Camp Atterbury, Ind.**

*(Ed Note — Reversing the cable is a good temporary fix . . . there's something in the wind about the winch's shear-pin being too hard. Until we're able to learn more about this, better keep a sharp eye on your winch-load capacity. It's not to be over 20,000 lbs.)*

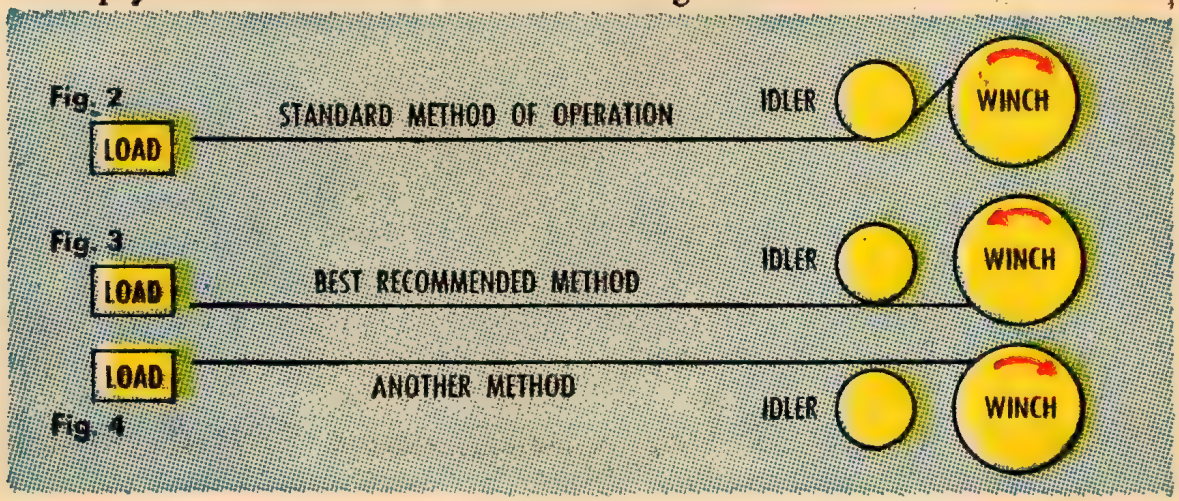
## EXHAUST DEFLECTOR

Dear Editor,

On the new jeep, the exhaust strikes the bumperette, deflects upward and the heat breaks the glass in the blackout lamp and deteriorates the spare tire.

A simple fix has been worked out by Cpl Walter Hubbell at this Post.

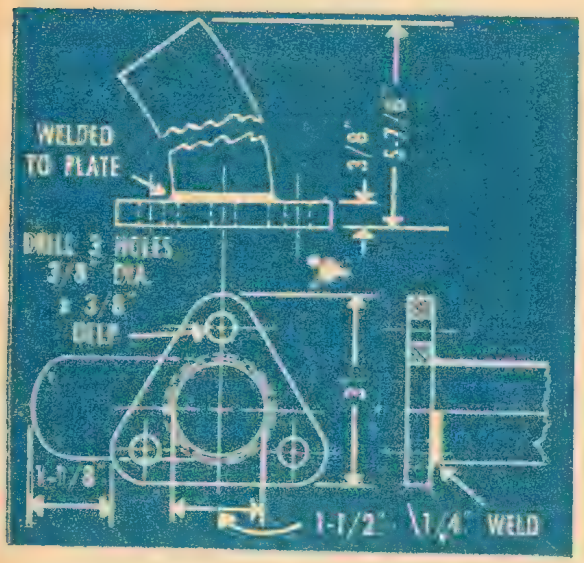
Using scrap material, he fabricates a short exhaust pipe, which is just long enough to shoot the exhaust down and



to the right side. The fix in addition to protecting the lamp and tire also makes the exhaust much quieter.

H. E. Gray, OCT
Fort Leonard Wood, Mo.

*(Ed Note—Corporal Hubbell's idea is on the OK side if the fabrication is removable so's the fording extension when it comes along can still be easily used. However, the exhaust should shoot under the bumperette without any fix. Could it be that your exhaust system needs adjusting?)*




## SCREWSLOT TIMESAVER

Dear Editor,

In removing the fuel pump from jeeps, I have found it wise to slot the heads of the two mounting bolts. By doing this and then using a screwdriver, the removal and installation of the fuel pump is a speedy operation.

Cpl Dennis C. Helton, Jr.
APO 5 c/o PM San Francisco, Calif.

*(Ed Note—On the unmodified jeep—which Cpl Helton is using—this is not only wise, but absolutely necessary. Not so though, with the newer M38's or M37's—these have been modified so the bolts extend out beyond the fuel pump and you can use the 9/16" box-end wrench with ease.)*

## RIGHT FRONT-SEAT, M38

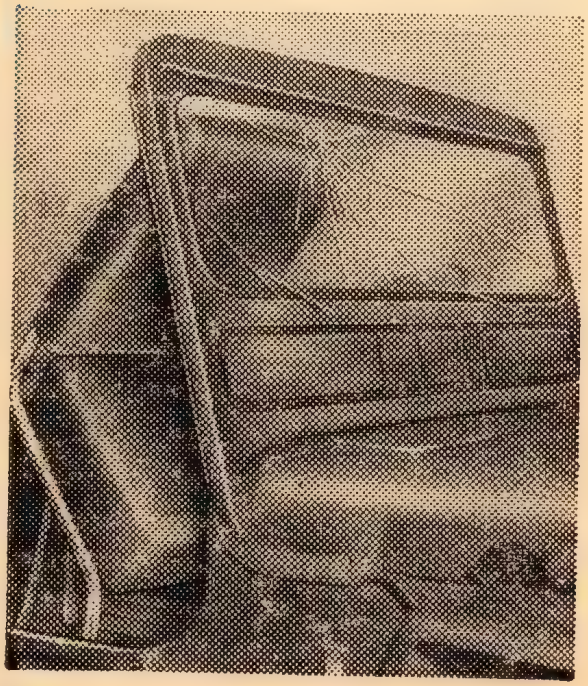
Dear Editor,

The front right seat on the M38 has been causing some trouble. We had a few cases where windshields were broken when the seat was pushed forward. At other times this seat was dropped on tool compartment lids while they were open, bending them.

Why not use a folding leg under the right side of the seat frame which would limit the forward travel and prop up the seat while the tool compartment is open? Similar legs or brackets are used to support drop leaves on office tables.

M. E. Lenning, OCT
Fort Eustis, Va.

*(Ed Note—Not a bad idea if it doesn't trip the guy getting into the back seat.)*



You may think such snow-dreams are strictly for the birds and the kiddies, but even if you don't hang-up your B-Bag, you still might get the water-fording M135 GMC for Christmas. And this new 2½-ton is just loaded with surprises — like the gimmick that not only holds the spare tire, but swings it out, and stands it up so that rolling it away is a one-man job.

Most important, though, **this truck ain't got no clutch.** The automatic transmission is going to save you a lot of footwork and shiftitus; which means, in short, that driving the M135 can be a real big pleasure.

This transmission automatically selects the forward gears that let the truck operate at its peak of efficiency . . . **if** the the driver has first selected the proper range and lever position.

There are four automatic forward speeds and one reverse speed in both high and low range. For your forward gears, you'll find two lever positions in each range; road and terrain conditions will clue you on where to move the lever. F-1 position is for level operation; F-2 is for those hills.

What you get in F-1 is automatic shifting that varies with throttle position **and** road speed. It is actually countering action between throttle and road speed that controls the four-speed shifting.

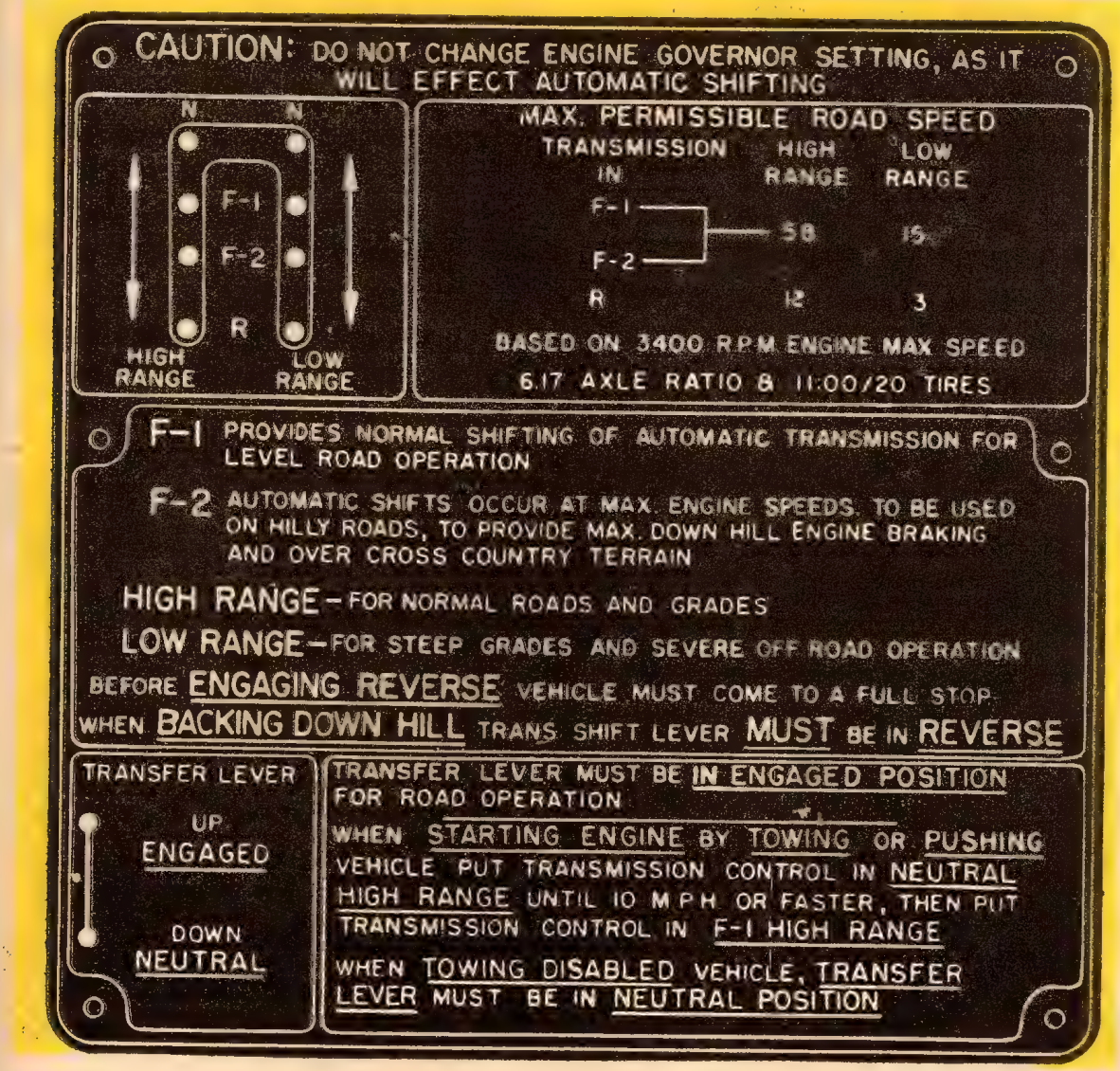
Say, for example, you're cruising along in fourth gear when you hit a slight incline. It's not truly a hill, so you don't move the lever position. Your throttle position stays the same over the hump, but you lose road speed, so the transmission downshifts to the next lower gear. When you regain road speed, she'll upshift into the higher gear again—without any additional throttle.

You can also "force" a downshift for maximum acceleration and power (if you're traveling under 35 mph in high range) by completely depressing the accelerator. The upshift to 4th will happen when you ease up on acceleration, or automatically when your road-speed climbs to about 38 mph.

F-2 position is for use in the hill country, when it's a long time between level stretches of road. This position gets you the two low gears, and they're automatically selected by road speed. This means that the gears aren't going to be shifting around when you don't want them to—by varying throttle position, you can **maintain** the best gear for climbs and also get braking help from the engine on down-grades.

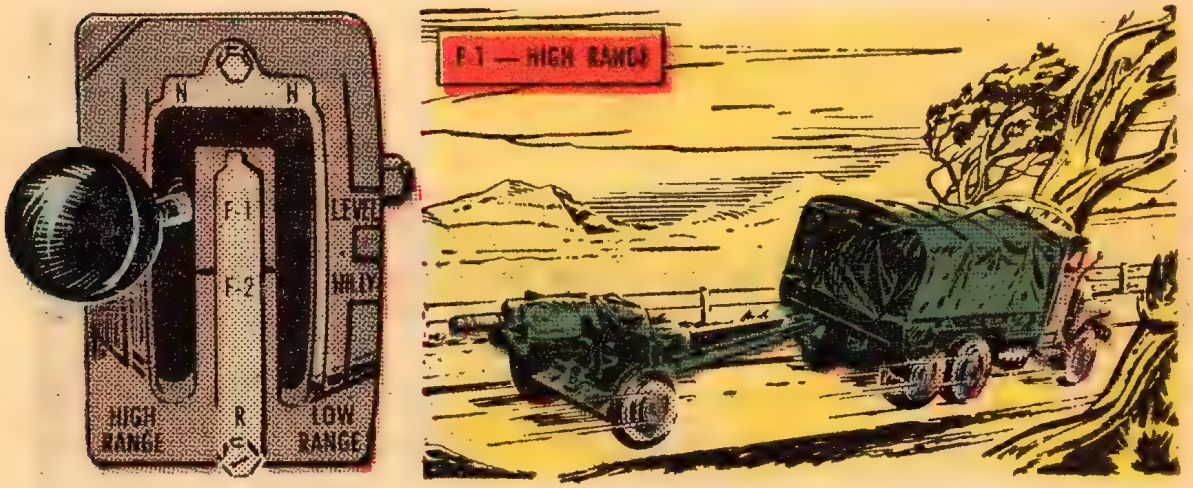
You can also maintain third gear in F-2 by reaching that gear in F-1, and **then** switching to F-2. This practice is particularly handy for making time over hilly grades. Throttle action isn't going to cause upshifts and downshifts in F-2 position until it first affects road speed.

Another thing it's good to know about—if you're in 4th speed F-1 (at 38 mph, or less) and you figure on needing F-2 for hilly country, to do some climbing, remember that the move to F-2 will immediately get you a downshift into 3rd speed. So it's not smart to make the move just because you've spotted a hill in the distance. Wait until you really need it—when she starts slowing up on the climb is time enough.

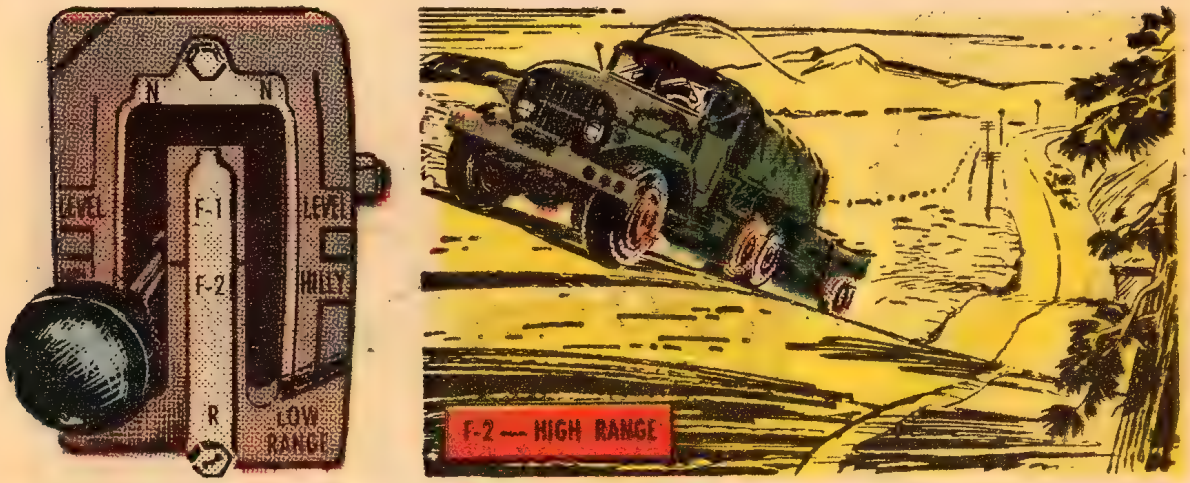

CAUTION: DO NOT CHANGE ENGINE GOVERNOR SETTING, AS IT WILL EFFECT AUTOMATIC SHIFTING
N
N
F-1
F-2
R
HIGH RANGE
LOW RANGE
MAX. PERMISSIBLE ROAD SPEED
TRANSMISSION IN
HIGH RANGE
LOW RANGE
F-1
F-2
58
15
R
12
3
BASED ON 3400 R.P.M. ENGINE MAX SPEED
6.17 AXLE RATIO & 11:00/20 TIRES
F-1 PROVIDES NORMAL SHIFTING OF AUTOMATIC TRANSMISSION FOR LEVEL ROAD OPERATION
F-2 AUTOMATIC SHIFTS OCCUR AT MAX. ENGINE SPEEDS. TO BE USED ON HILLY ROADS, TO PROVIDE MAX. DOWN HILL ENGINE BRAKING AND OVER CROSS COUNTRY TERRAIN
HIGH RANGE - FOR NORMAL ROADS AND GRADES
LOW RANGE - FOR STEEP GRADES AND SEVERE OFF ROAD OPERATION
BEFORE ENGAGING REVERSE VEHICLE MUST COME TO A FULL STOP
WHEN BACKING DOWN HILL TRANS. SHIFT LEVER MUST BE IN REVERSE
TRANSFER LEVER
UP
ENGAGED
DOWN
NEUTRAL
TRANSFER LEVER MUST BE IN ENGAGED POSITION FOR ROAD OPERATION
WHEN STARTING ENGINE BY TOWING OR PUSHING VEHICLE PUT TRANSMISSION CONTROL IN NEUTRAL HIGH RANGE UNTIL 10 M.P.H. OR FASTER, THEN PUT TRANSMISSION CONTROL IN F-1 HIGH RANGE
WHEN TOWING DISABLED VEHICLE, TRANSFER LEVER MUST BE IN NEUTRAL POSITION

The action you get from low-range positions is essentially the same as you've been getting in high range, with the big exception of road-speed influence. In low range, automatic shifting occurs at approximately ¼ the road speed of equivalent shifting in high range — and, of course, pulling ability is increased accordingly.

Maximum speed in low range is 15 mph—if you can travel faster than that going cross-country (maybe you're on a nice, hard, dry river-bed) you've got no business being in low range. And, it follows, you've got no business moving into low range in the beginning if your road speed's over 15 mph—unless you want to tear off a piece or two of transmission, truck, M135. The choice of when to move in and out of low range is some-



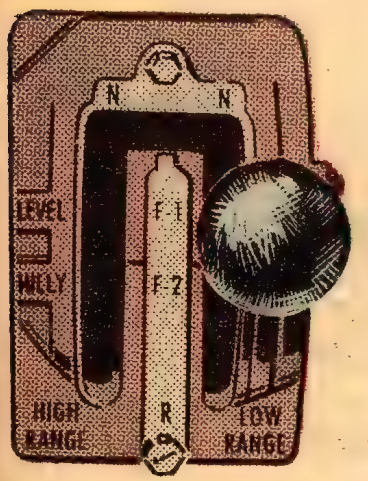

This driver's in F-1 high-range, and as long as the road stays so good, he'll let the transmission do its own work on stops and starts and slow-downs. He'll touch nary a finger-nail to the gear lever.

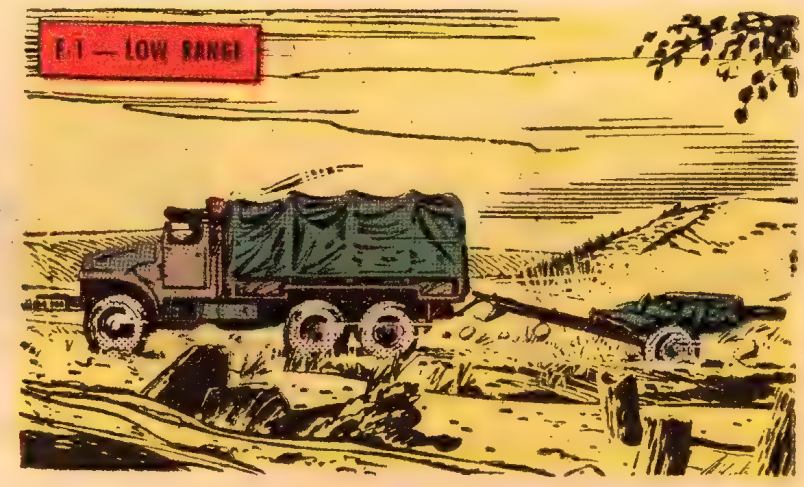



Our driver here is still in high range, but he's shifted to F-2 — He's smart. He knows he can now use accelerator action to help him maintain the gears needed for climbing, and get braking help from the engine.

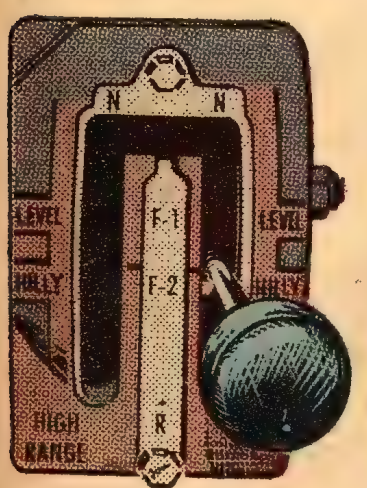
thing you've cultivated with manual shifts, anyway—it's just more important not to let the automatic shifting make you lazy in judgment.

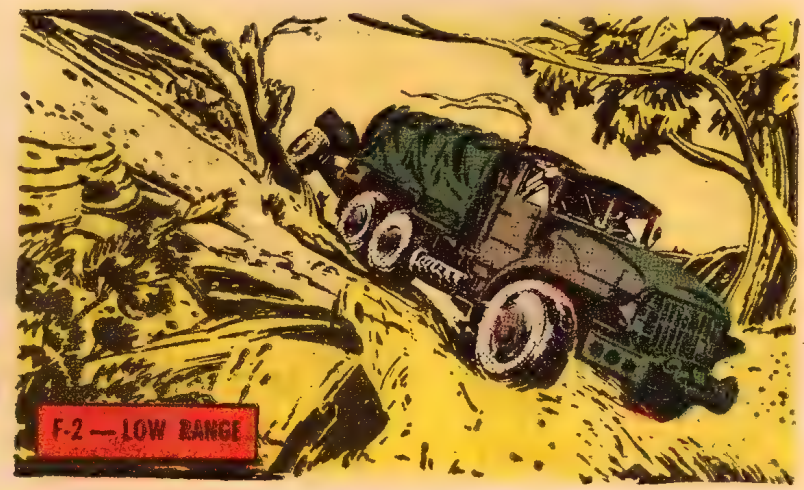
How about reverse gear, now? It's pretty much the same as before this newfangled transmission came into the picture. Naturally, you're not going to be traveling or rolling backward unless your lever's in reverse. Nor are you going to shove the thing in reverse while you're in a forward motion . . . which would be sad for this baby. Remember, you're not clutching, and you'll get no warning clash of gears to make you wait for a complete stop before engaging reverse. What you'll get is a torn-up transmission. The same holds true when you're moving from reverse to any other position. You've gotta be stopped—don't rush it.




This driver would be in low range whether or not he's got an automatic transmission. But, as yet, he's still in F-1 low-range—and he'll stay in F-1 as long as the truck holds its gears and speed.




The truck'll know what lever position it needs. If it can't hold its own — keeps automatically down shifting — the smart driver puts her in F-2 low-range. Which makes it easier for both of them.

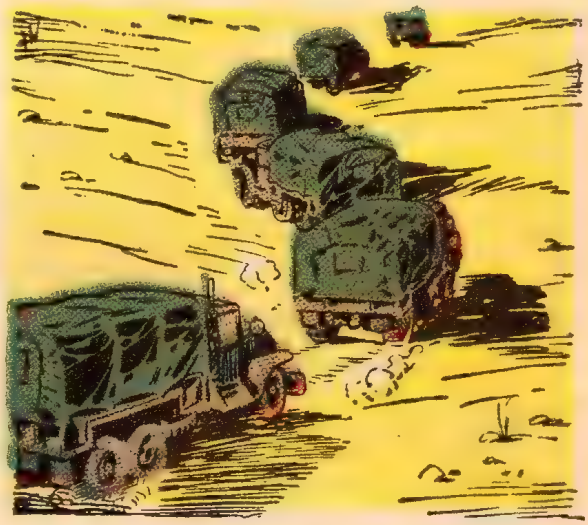
In a nutshell, you'll find the important do-and-don'ts on the vehicle caution plate. TM 9-819A will tell you in detail about the care and feeding of the transmission during operation, towing, winching, etc. If you'll drive by the seat of your pants, and use the lever positions to give the truck help when she needs it, you'll fall in love with this 2½-ton GMC.

**BEFORE YOU DRIVE YOUR M135 . . .**

Do these three things:

1. Get an hour of driving instruction.
2. Get another hour of driving instruction.
3. Get a third hour of driving instruction.

Sound silly! Not at all. You'll either be glad you did or you'll wish you had. Spend the first hour on pre-driving instruction on the application of theory. Spend the second hour driving the truck in all gear combinations, at all speeds, and under all possible terrain conditions. Then go back and talk for another hour about what you did, how and why you did it, and what you'd do in case.



Erratic spurts and releases of acceleration will give you constant shifting—and a big, fat headache in convoy. But in F-1, even 4th gear can be held at road speeds low as 12 mph by **gradually** easing-up acceleration.

Half-way up a sand dune isn't the time to hunt 1st gear by releasing the accelerator. F-2 gives you control of when she'll shift — work the accelerator so she doesn't get up enough speed to shift into 2nd gear.

When you're close to a stall is a rotten time to decide you should be in low-range. As you're fumbling the lever up, over, and down, you've also started to roll back — And where can you go without a transmission?

## How To Avoid What You've Been Calling

# VAPOR LOCK ON THE M38

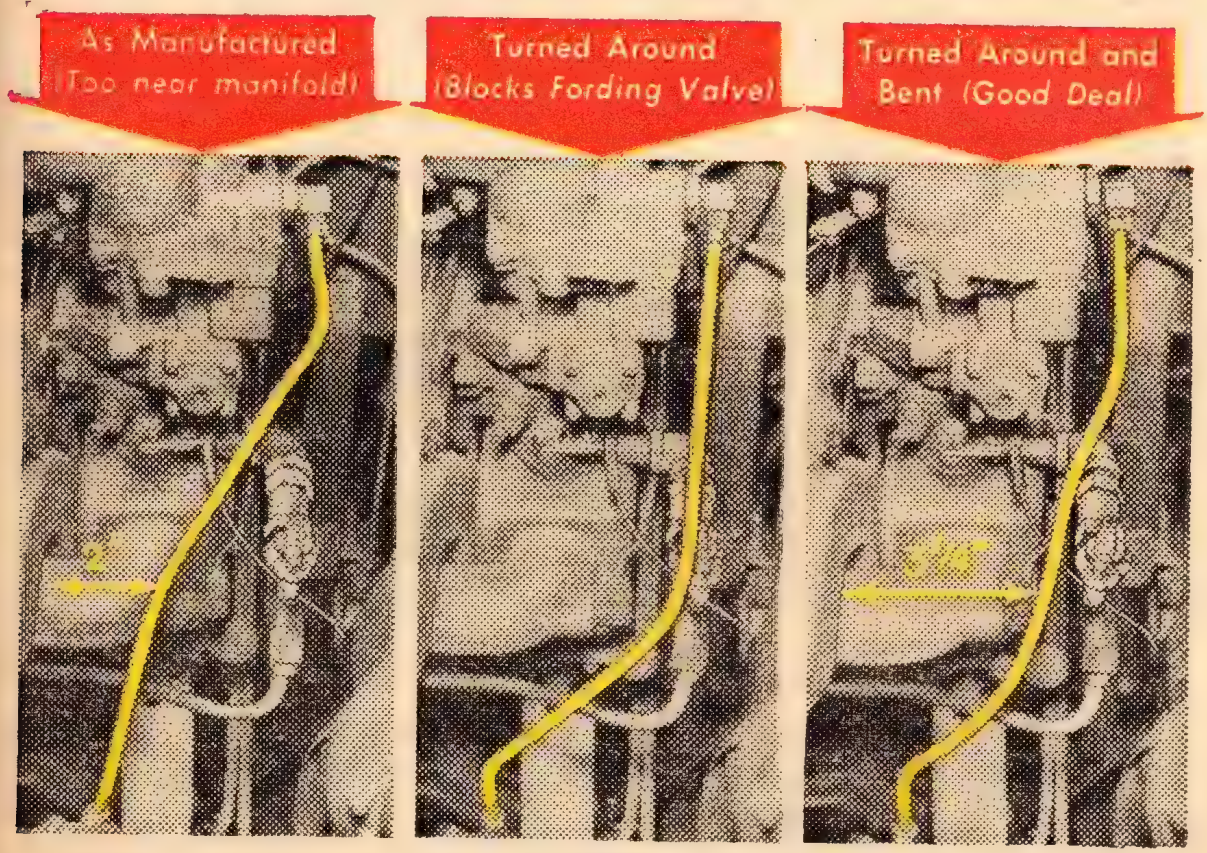
Dear Editor,

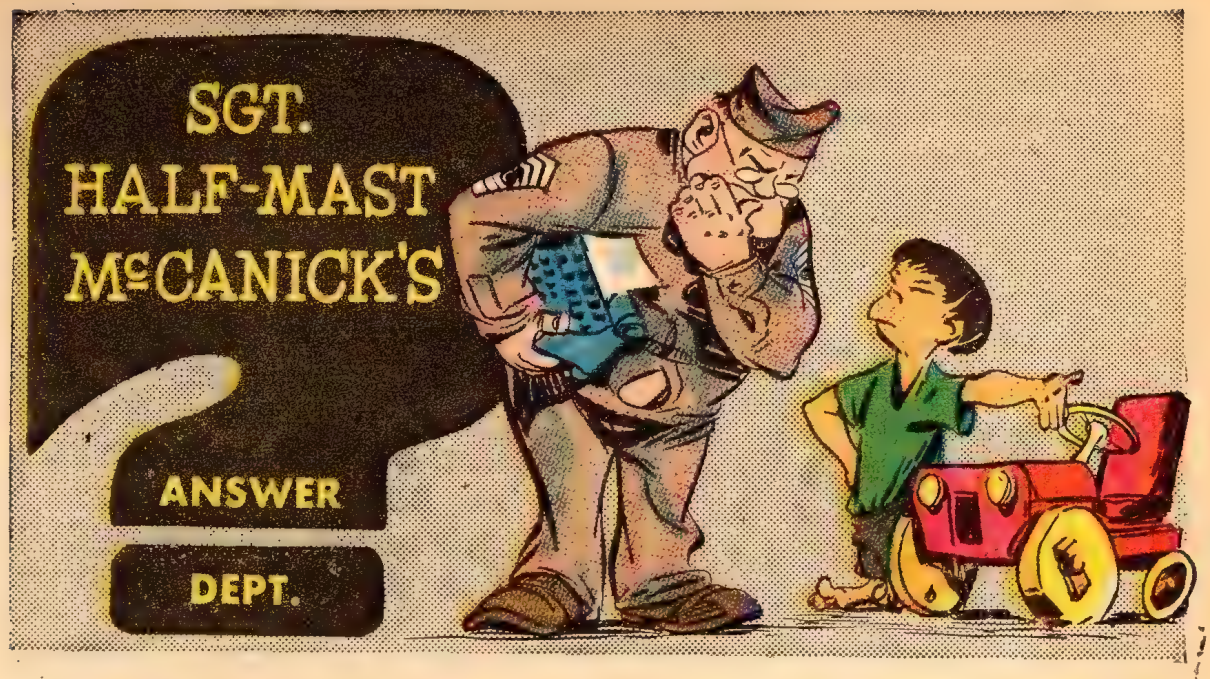
I've had trouble on the M38 with the gas vaporizing in the gas line after a long trip, leaving us with a vehicle that won't start. This is caused by the gas line being too close to the manifold, and the heat building up under the hood causes the gasoline to boil in the line. But I found a quick easy way to correct this trouble. Just take the line off and turn it around. This gives you an entirely different course which takes it far away from the manifold.

**Cpl Howard A. Bisnett**

*(Ed Note—Half-Mast took a camera along when he tested your fix and came up with these three shots of the gas line:*

*Vapor lock in the fuel line isn't too likely in the M38 unless you're in extra hot country, it says here. The pressurized cap on the gas tank is supposed to keep you going. In desert areas pumps are submerged in the tanks. Could it be that some air seeped through a loose packing nut on your primer pump? Or, that some scale around the fuel line filter and fuel line restricted your gas flow? Maybe the vent on your gas tank is clogged.)*






## WINCH-CLUTCH LEVER

*Dear Half-Mast,*

*We are having trouble with the winch clutch levers breaking on the 5-ton M-51 truck. The lever binds on the front grill bracket. It is made of a very poor grade of aluminum. What to do?*

*Sgt W. L. E.*

Dear Sgt W. L. E.,

Granted the lever would be made of poor grade aluminum—there's a trick to operating the clutch to prevent the lever from breaking. Could be that in some cases the operator's been trying to engage the winch-drum clutch with the jaws not in the proper relative position. Crunch-crunch!

Now then, if operating alone, rotate the winch drum by hand, with reasonable pressure on the winch-clutch operating-lever. Apply pressure by hand instead of foot, hammer, or two-foot length of pipe. If you have an assistant driver, while he applies pressure on the winch-drum operating-lever, you can engage the winch drive in reverse position, rotating the winch very cautiously. When the two clutch members are properly matched, they will become engaged — and then there's no reason for breakage.

Half-Mast

## JIMMY SYMBOLS

*Dear Half-Mast,*

*On a GMC 2½-ton 6x6 model you find the symbols CCKW353. I know 353 means LWB, but can you tell me what CCKW means? I've checked everywhere.*

*Sgt K. L. H.*
*Korea*

Dear Sgt K. L. H.,

Don't worry about that CCKW. The only guy that gets anything out of it is the manufacturer. He uses it as a model designation. For you, it's like the farmer who saw his first giraffe—it just didn't exist.

Half-Mast

## OLD BRAKES ON 2-1/2-TON'S

*Dear Half-Mast,*

*Out here in Korea we're having trouble getting parts for the box-type master-cylinder brake-booster-valve and the vacuum booster on our old closed-cab 2½-ton vehicles. I'd like to know where I could get the parts we need or if it's possible to convert the braking system to the later hydrovac type used on the GMC's.*

*Sgt R.T.S.*

Dear Sgt R.T.S.

First about remodeling the old brakes on your old 2½-ton trucks; that's a tough one, but it can be done. You'd have to take out the old system completely and start from scratch on installing the hydrovac system. As I said, it's a rough job because all the hydrovac parts may not be available to you. If you can get a wrecked truck with a hydrovac, and if you can get the old man's permission to cannibalize its braking rig, that would be your best bet. With the aid of TM 9-801, TM 9-1801 and TM 9-1827B, a good mechanic, and a fair share of ingenuity, it wouldn't be too tough to put the cannibalized parts in your truck.

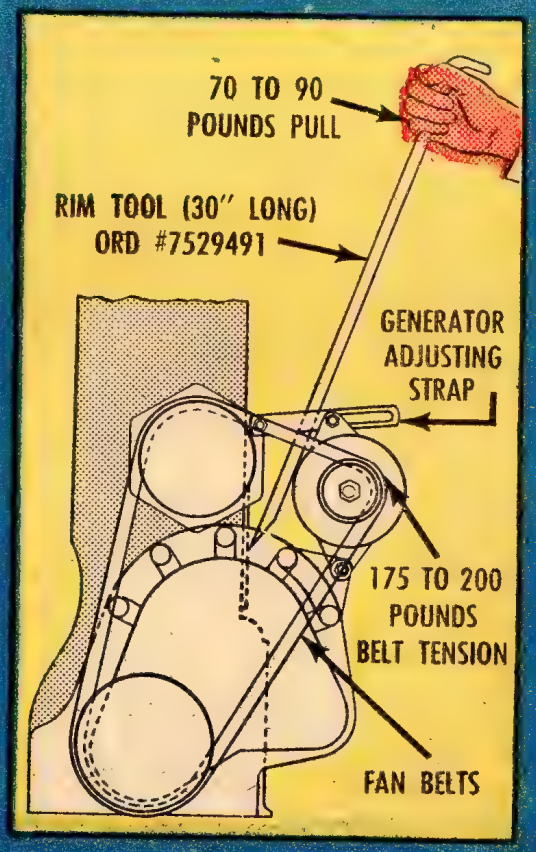
Now the parts for your old braking system; I agree with you. They're definitely hard to get because that type became obsolete about ten years ago. The easiest way out would be to turn the truck in for a later model you could get parts

### P.S. TO MR. P.

In the July issue we got talking about adjusting the fanbelt on the M51 (5-ton 6x6 International Dump). Those belts are made of a steel-rubber combination which won't snap, crackle, or pop in low temperatures the way standard belts do. And they should be set tight. The manufacturer has wised me up on the right way to handle the belts on all R6602 engines. He says to put a 70 to 90 lb pull on a 30-inch-long bar, resting against the generator, and pointed against the block just under the retaining cap-screw for the front tappet-cover.

This'll leave those belts just the way you want them.

And if you ever hear mice-noises from under the hood, it's your cue to look for loose belts.



for. But if you **really** want the parts, and have a pocket fulla dough, they can be had on a commercial purchase-order sent direct to Bendix Brake Co., South Bend, Ind.

*Half-Mast*

## HOW TO REVERSE M46 GENERATOR POLARITY

*Dear Half-Mast,*

*My question deals with the M46; when the batteries are low and a slave cable is used, do you have to flash the fields of the generator? If so, how is this best done?*

*Sgt G. K.*

Dear Sgt G. K.,

Having to flash the generator is about a one-in-a-thousand shot. The only time it could be necessary is when the tank hasn't been run for a long time; like when it's been in storage or shipment, or when a new generator that's been sitting in stock is installed. Chances are even then you wouldn't have to flash it.

To flash . . . remove the center set of batteries, get at the cables entering the rear of the master junction-box and unscrew the #2 main-generator-cable connection (extreme top receptacle) (Fig. 2). Get a 6-foot piece of #16 wire, fasten one end to the output side of the **auxiliary** generator, and wind up the auxiliary generator 'til it hums on its own power. Then with a quick motion, jab the other end of the #2 generator cable (female) receptacle (Fig. 2). This'll flash the main generator and set it straight.

You'll never have to worry about flashing the auxiliary generator, it flashes itself every time it's cranked electrically.

*Half-Mast*

## TOOL SET SNL

*Dear Half-Mast,*

*I have been trying to locate a TB on*

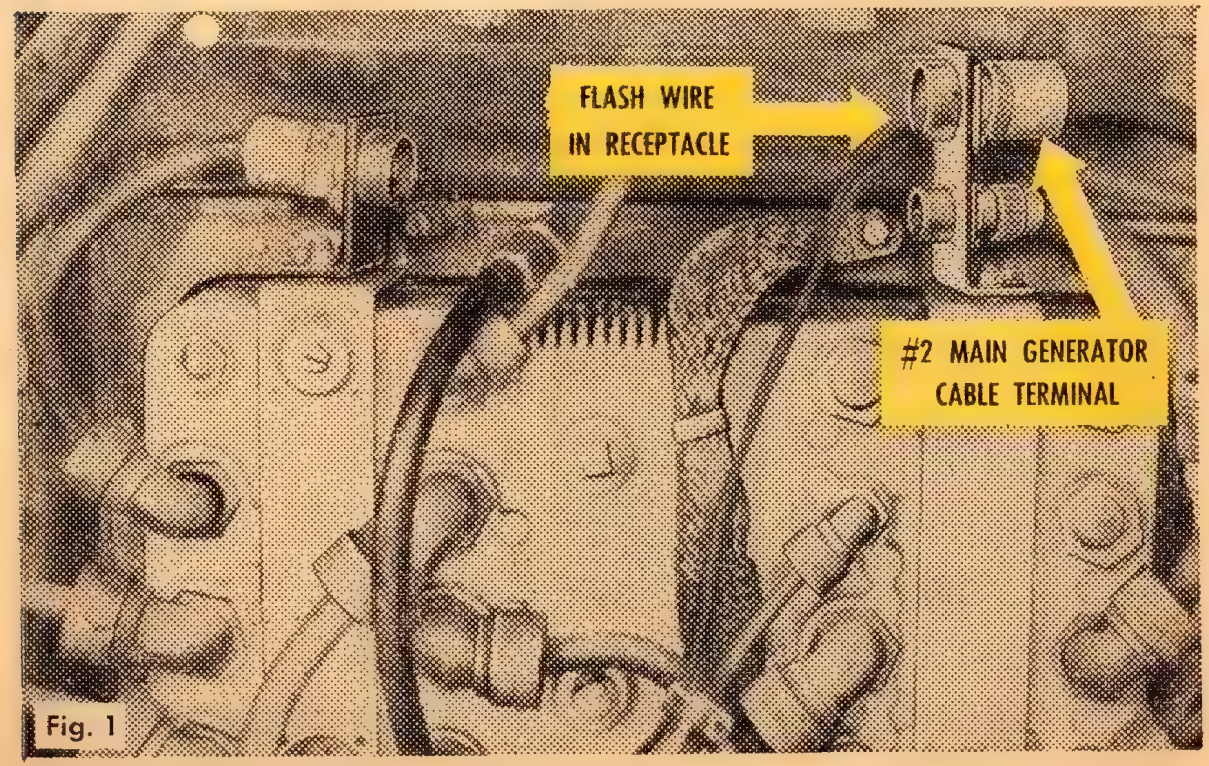



Fig. 1

*3rd echelon set No. 1 for installation in vehicles, can you tell me if there is such a Bulletin and if not, can you offer any suggestions.*

*SFC H.R.*
*Ft. Worth, Texas*

Dear SFC H.R.,

You're out of luck on a TB for the 3rd echelon set No. 1 for installation in vehicles at this time. That hasn't been published yet. The publication you want is ORD 6 SNL J-8 and AG publications is waiting for your request.

Half-Mast

## SPARE-PARTS ALLOWANCES

*Dear Half-Mast,*

*I've been wondering why the Ord Vehicle Books are so different in their authorization for stock parts. For instance, one SNL will let us draw head gaskets and another won't.*

*Here we use as many parts for the Jeep as we do for the GMC trucks.*

*MSgt J. W. W.*

Dear MSgt J. W. W.,

That's a good question — often asked. The reply is simple—only you've got to know the ropes to know the answer.

After a thorough check by the Ord Corps on the use of items as shown by the **entire** Army, the parts allowances are set up in the Ord Vehicle Books. In the case of the Jeep vs the GMC truck it appears that the GMC has a higher usage and a harder usage than the jeep, hence the difference in the stock parts. In your own unit perhaps you're right, the Jeep may be used equally as much as the truck.

We'd like to suggest that if you note that changes should be made in the spare parts allowances check with ORD I, June 1951, page 9, paragraph 7 which in short says, "Make your recommendations for these changes direct to the big boss." Read the suggested paragraph. It gives you the stuff you need for changes.

Half-Mast

## EMERGENCY BATTERY-REPAIR

*Dear Half-Mast,*

*As an emergency battery repair, if you boil compound rust preventive for some time, it becomes very thick and will seal leaky batteries in jeeps.*

*Sgt F. A. F.*

Dear Sgt F. A. F.,

It takes three or four hours of constant boiling for the rust preventive compound to thick-up enough, but it'll seal leaks as good as anything.

For a real quickie, though . . . order yourself a gallon of 20140 Compound, Splicing, GE #227 (a Standard Stores item) and next time you need fast handling, heat the #227. In the time it takes to hotten up, use a pry to remove the old compound and to score a small groove around the leak. Then pour in the melted #227. It'll harden 1-2-3 . . . and that's it. It's weatherproof, too.

Incidentally, if it's the case that's cracked, that sealing action is gonna be real short-lived. Better order a new battery soon as you get in the right neighborhood. And with cracks in the sealed cell-cover, the same deal holds—except you only need replace the cell top. Just don't use a petroleum-base sealer—it breaks down the asphalt in the case.

Half-Mast

## RATCHET-WRENCH LUBE

*Dear Half-Mast,*

*What do you think about taking your ratchet wrench apart and packing the ratchet with WB grease to make its use easier. Seems like the ratchet doesn't click so much when loosening bolts.*

*Sgt J. M.*

Dear Sgt J. M.,

Your suggestion about taking a ratchet apart and packing it with grease to get better and quieter operation is good enough, but why not use chassis lube, or some commercial vaseline if you have it at hand. Wheel bearing grease is so heavy and fibrous that I'm afraid some cold morning the dog won't engage the ratchet fully and you'll lose all the hide off your knuckles when it slips out. Getting rid of some of the click is O.K. but remember that the little pawl must drop clear into the teeth on the drive disk or you'll have an unsafe wrench to use.

And incidentally, when your ratchet becomes worn, start the mills turning to get a new one. It might cost more than new hide, but it's less painful to you.

Half-Mast

## MARKING LUBE-POINTS

*Dear Half-Mast,*

*Have given up trying to find an Army Regulation or directive requiring lubrication points to be circled with red paint, filler plugs painted red, etc. This was required in EUCOM for some years. What is the pertinent data on this?*

*Maj R. R. C.*

Dear Maj R. R. C.,

Used to be a **must** when you had to lube by means of grease cups . . . then along came other ways of lubing and the red paint was given back to the Indians. Maybe this wasn't such a good idea, methinks, because some of the newer TM's are coming through with, and I quote, "A ¾-inch red circle should be painted around all lube fittings," end quote. And so the cycle completes itself, because now it's being taught that all drain plugs, transmission fillers, grease points and tank differential fillers are to be painted red.

For lack of oil a bearing was lost . . . and it's still easier to see red through grime than to see red, period.

Half-Mast

## AIR-CLEANER OE

*Dear Half-Mast,*

*I disagree with Sgt C. F. H. who complained to you from Hawaii (June PS, page 42) that the boys there get gigged by spot inspectors if OE 50 isn't found in their vehicle's air cleaners. The roadside inspection teams covering that area operate out of this office and believe me sergeant, the Lube Orders are our bible.*

*L. M. W.*

Dear L. M. W.,

Good for the USARPAC roadside spot-inspection teams—as I told Sgt C. F. H. in June PS, the LO's the law.

Thanks for writing. It was good to hear you speak out.

## To Save Walking Back Here's A Field Fix For

# M46 OIL COOLER FANS

Development and Proof Services, Aberdeen, has come up with an emergency fix for a dead clutch in the oil cooler fan. They recommend welding the fan to the clutch, running the fan direct from the transmission without benefit of the electrical system. This fix has gotten tanks back home under their own power from over 200 miles away. It can be done in the field in about ten minutes when your tank's rigged for it.

If you want your tank in shape for this quick-fix, here's how it's done. Get a 1" hole drilled in both fan shrouds, on top and 3" from the rear flange (Fig. 1). This is so you'll be able to get at the fans. Also it won't hurt to have them thread the 1" hole to take a standard pipe plug that'll act as a dirt stopper.

Then you'll need 15 feet of #2 wire

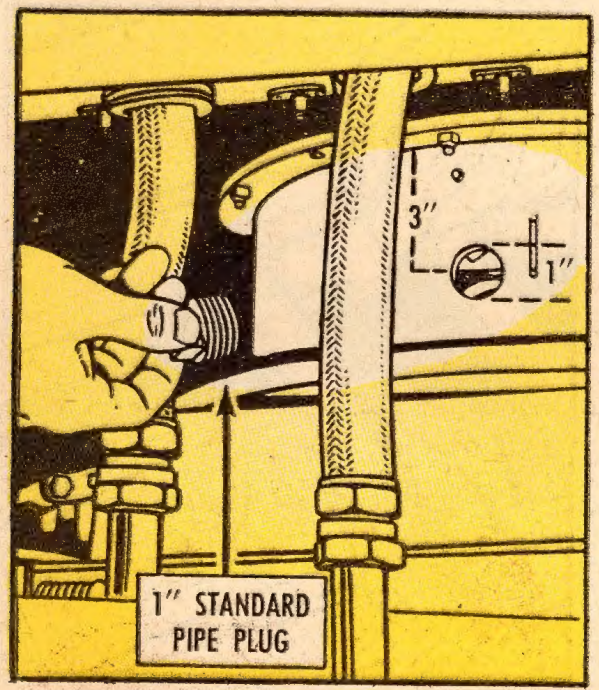



Fig. 1—You need this hole for the welding rod—but keep it plugged when not in use.

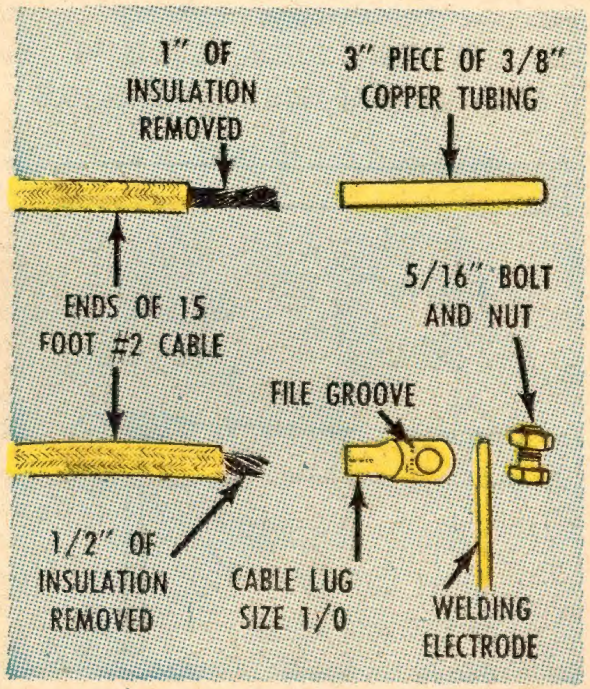

1" OF INSULATION REMOVED
3" PIECE OF 3/8" COPPER TUBING
ENDS OF 15 FOOT #2 CABLE
5/16" BOLT AND NUT
FILE GROOVE
1/2" OF INSULATION REMOVED
CABLE LUG SIZE 1/0
WELDING ELECTRODE

Fig. 2—Here's about all it takes to rig a power extension-line for oil-cooler fans.

cable, a 3″ piece of ⅜″ copper tubing, a cable lug (1-0 size), a 5/16″ bolt & nut and a welding electrode wire (Fig. 2). This'll make a power extension-line to run from the tank's slave-receptacle back to the oil-cooler fans.

Assemble the extension and simple electrode holder this way. Skin off 1″ of the insulation from one end of the cable; trim the wires till it'll slip into the 3″ piece of tubing...then fill the tube with solder to help it hold its shape. On the other end, skin off ½″ of insulation; clean it, then solder it into the cable lug. File a groove across the lug (near the hole) to make a snug seat for the welding rod, run the bolt through the hole and screw on the nut (Fig. 3).

Now if your oil cooler fan ever goes kaput and there's no other way of fixin' it: 1. Get out the welding extension you've just made, plug the copper tubing end in the positive socket of the slave-receptacle. 2. Put the wire electrode in the groove of the lug and tighten the nut (like in Fig. 3). 3. Get at the fan that's dead and unscrew the plug. Insert the electrode in the hole, guide it past the fins, hold it above the fan base and get set to flash the welding arc (Fig. 4). 4. Run the auxiliary generator until the juice output is above 250 amperes; then with a quick jab, touch the fan base.

This'll weld it to the clutch and you can put in the plug and your tank'll be ready to take off again...

But you'll have to take it easy—if you cowboy the tank or give her the gun quicklike, brisk acceleration might shear the fan's drive shaft.

When the time comes to repair the fan, you'll be able to re-use the welded fan and clutch...just break the weld and machine the rough spots 'til you've got smooth clutch and drum faces.

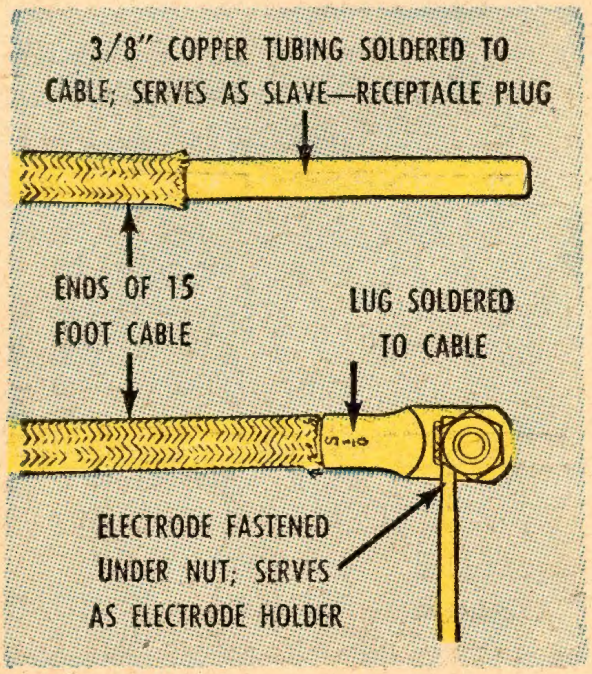

3/8" COPPER TUBING SOLDERED TO CABLE, SERVES AS SLAVE—RECEPTACLE PLUG
ENDS OF 15 FOOT CABLE
LUG SOLDERED TO CABLE
ELECTRODE FASTENED UNDER NUT, SERVES AS ELECTRODE HOLDER

Fig. 3—This is how the welding rod gets tightened in the groove made in the line.

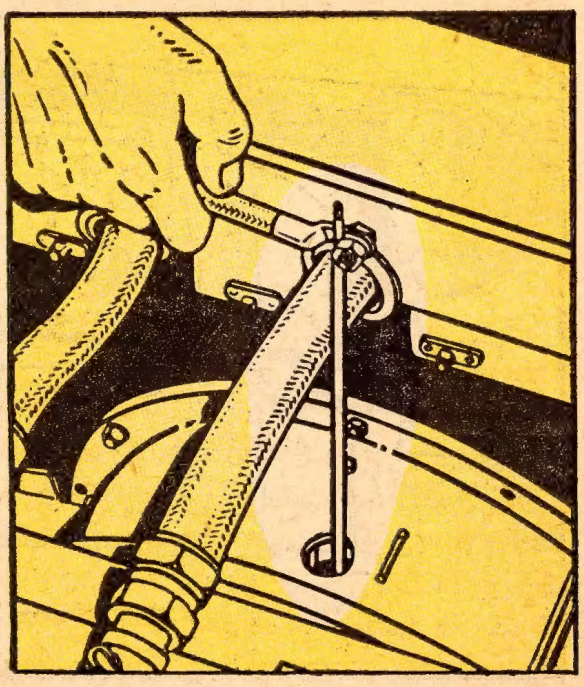
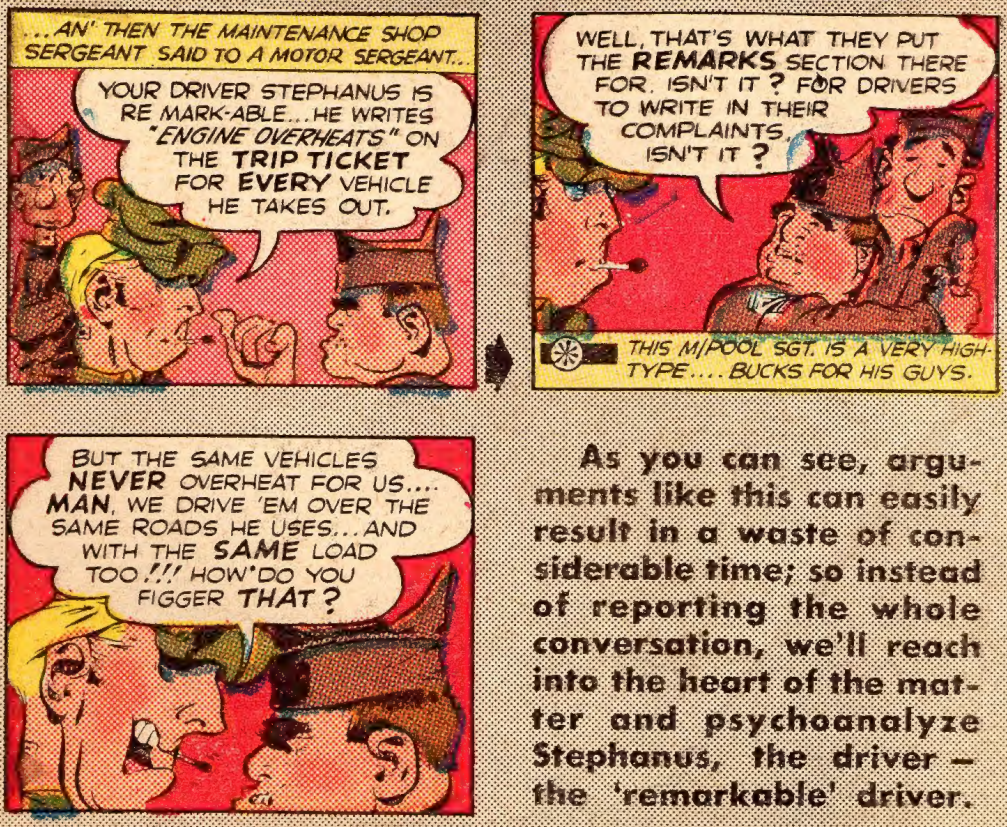


Fig. 4—Use it like this . . . and you have a fix for dead clutches in oil-cooler fans.

# STEPHANUS....The Remarkable Driver


...AN' THEN THE MAINTENANCE SHOP SERGEANT SAID TO A MOTOR SERGEANT...
YOUR DRIVER STEPHANUS IS RE MARK-ABLE...HE WRITES "ENGINE OVERHEATS" ON THE TRIP TICKET FOR EVERY VEHICLE HE TAKES OUT.
WELL, THAT'S WHAT THEY PUT THE REMARKS SECTION THERE FOR, ISN'T IT? FOR DRIVERS TO WRITE IN THEIR COMPLAINTS, ISN'T IT?
THIS M/POOL SGT. IS A VERY HIGH-TYPE.... BUCKS FOR HIS GUYS.
BUT THE SAME VEHICLES NEVER OVERHEAT FOR US.... MAN, WE DRIVE 'EM OVER THE SAME ROADS HE USES... AND WITH THE SAME LOAD TOO!!! HOW'DO YOU FIGGER THAT?

**As you can see, arguments like this can easily result in a waste of considerable time; so instead of reporting the whole conversation, we'll reach into the heart of the matter and psychoanalyze Stephanus, the driver — the 'remarkable' driver.**

Stephanus was busy at his trade, fish scaling at Fulton's, when he received the greeting card that said his friends and neighbors had selected him for service.

Then he was selected for driver training, since there wasn't an opening in his civilian profession at the moment. Now Stephanus tries very hard, but no matter how hard he tries—he can't seem to select the proper gear when driving up hill.

He invariably chooses one ratio higher than he should use on any given hill. When he should use 4th, he's in 5th. When he should be in 2nd he's in 3rd—it's a talent. They say Stephanus would rather call for a tow than use 1st. You might call Stephanus a lugger.

They're curing him now, however, with the help and advice of the Chaplain, the Medics, and the 3rd echelon shop.

First they have him recline on a comfortable cot . . . tell him he mustn't lug his engine over hills . . . makes it overheat, see? They show him a foofed heat indicator stuck at 212°. Lugging causes damage to internal parts, see? They show him damaged bearings, burned valves, damaged pistons.

Then they ask him, "you won't lug your engine up-hill any more, will you Stephanus?"

We hope Stephanus will learn quickly under this kind of sympathetic guidance. But if he doesn't, well . . . there's still hypnotism, the lie detector, and sodium pentathol.

# THE DAY THE SHOP STOOD STILL!

## What stopped the shop?

Was it a bee?
Was it a bird?
Or breakfast in bed . . . ?

All wrong soldier. The latest copy of PS just shot into the shop. And that's no bullet! The men who know their chassis best will take time out to huddle over PS before they turn another wrench. They'll pass it around until all the stories are smutty from grease prints . . . pooped from hard wear.

PS is no library flower—it's screaming for attention NOW. It won't wait for a rainy day.

The best thing that can happen is for it to look like the one in the picture . . . greasy and read all over.